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THESIS

**PREPARING FEDERAL COORDINATING OFFICERS
(FCOs) TO OPERATE IN CHEMICAL, BIOLOGICAL,
RADIOLOGICAL, AND NUCLEAR (CBRN)
ENVIRONMENTS**

by

Tony Russell

December 2008

Thesis Advisor:
Second Reader:

Glen Woodbury
John Rollins

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ENVIRONMENTS**

Tony Russell

Federal Coordinating Officer, Federal Emergency Management Agency, Denver,
Colorado

B.A., University of New Mexico, 1983

M.A., National University, 1988

M.B.A., National University, 1989

Submitted in partial fulfillment of the
requirements for the degree of

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**NAVAL POSTGRADUATE SCHOOL
December 2008**

Author: Tony Russell

Approved by: Glen Woodbury
Thesis Advisor

John Rollins
Second Reader

Harold A. Trinkunas, Ph.D.
Chairman, Department of National Security Affairs

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ABSTRACT

In this thesis the Federal Emergency Management Agency's (FEMA) Federal Coordinating Officer (FCO) function is examined as it relates to Chemical, Biological, Radiological and Nuclear (CBRN) operations. It is suggested that targeted changes can be made to ensure the FCOs are better prepared to manage the additional complexities of a CBRN environment. The changes include addressing the FCOs from the systems approach- internally to improve the FCO personal and professional development; external organizational design to improve the FCO's cross-jurisdictional operating environment; and agency support changes to provide the FCOs with additional CBRN staffing expertise to aid in managing the complexity. If the recommendations herein are adopted, the critical command and control function of the FCO in a CBRN environment will be substantially enhanced and the readiness level of the federal response system greatly improved.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBRN--Chemical, Biological, Radiological, Nuclear
CBRNE--Chemical, Biological, Radiological, Nuclear and High Explosives
CFR--Code of Federal Regulations
CW--Chemical Weapons
DC--District of Columbia
DHS--Department of Homeland Security
DoD--Department of Defense
DOE--Department of Energy
DSCA--Defense Support to Civil Authorities
DTRA--Defense Threat Reduction Agency
EOC--Emergency Operations Center
EPA--Environmental Protection Agency
FBI--Federal Bureau of Investigation
FCO--Federal Coordinating Officer
FEMA--Federal Emergency Management Agency
HAZMAT--Hazardous Material
IMAT--Incident Management Assists Team
IMAT-CBRN--Incident Management Assists Team Chemical, Biological, Radiological
and Nuclear
JCG--Joint Coordination Group
JFO--Joint Field Office
JIC--Joint Information Center
JTF-CS--Joint Task Force Civil Support
ICS--Incident Command System
MA--Mission Assignment
MCO--Marine Corps Order
NARP--Nuclear Weapon Accident Response Procedures
NBC--Nuclear, Biological, and Chemical

NBCD--Nuclear, Biological, Chemical Defense
NIMS--National Incident Management System
NORTHCOM--United States Northern Command
NRCC--National Response Coordination Center
PDP--Professional Development Plan
POS--Point of Service
RRCC--Regional Response Coordination Center
RDD--Radiological Dispersal Device
TOP OFF--Top Officials Exercise
TQP--Tiered Qualifications Plan
UC--Unified Command
UCG--Unified Command Group
USMC--United States Marine Corps
WMD--Weapons of Mass Destruction
WMD-CST--Weapon of Mass Destruction Civil Support Team

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I. INTRODUCTION

A. BACKGROUND

In October 2007, the President of the United States released the National Strategy for Homeland Security. The purpose of the strategy is to guide, organize, and unify the nation's homeland security efforts.¹ One of the main challenges identified in the strategy is the need to continue and strengthen efforts to achieve full unity of effort through a stronger and further integrated national approach to homeland security.²

Written in support of the National Strategy for Homeland Security and the tenants and themes of the Federal Emergency Management Agency's (FEMA) five-year strategic plan, the Federal Coordinating Officer (FCO), Professional Development Plan (PDP) is designed to promote the development of the best leaders in the United States government.³ The Federal Coordinating Officers have a prominent role in helping the agency (DHS/FEMA) accomplish its core missions of saving lives, preventing suffering, protecting property, and conducting recovery operations.⁴ Furthermore, the PDP provides the framework for FCOs to acquire, build, and refine the skills needed to be successful in today's environment of increasing frequency and destructiveness of disasters (to include CBRN), growing public expectations, and added pressures to reduce disaster costs.⁵

In the current context, the national strategic plan and the FCO PDP both define requirements, objectives, and goals for FEMA and the FCO cadre respectively, but the intersection of the two with specific processes as it relates to a CBRN terrorist attack is not clear. This thesis will focus on the Federal Coordinating Officer in the designated

¹ White House, *National Strategy for Homeland Security* (Washington, D.C.: White House, 2002), I.

² *Ibid.*, 7.

³ Federal Emergency Management Agency, *Federal Coordinating Officer: Professional Development Plan* (Washington, D.C.: FEMA, 2008), 1.

⁴ *Ibid.*

⁵ *Ibid.*

role of senior leader in the field and address the training, readiness, organization, and support mechanisms that are required to ensure the FCOs are prepared to lead a field response in a CBRN environment consistent with the dictums of the FCO Professional Develop Plan in support of the FEMA Strategic Plan and the National Strategy.

1. An Examination of the Position of Federal Coordinating Officer (FCO)

The Federal Coordinating Officer (FCO) is a unique senior leader position within the federal government structure. There is no guidebook or checklist to show a person what constitutes being an effective FCO. The measurement of the effectiveness of the FCO is purely from operational and tactical results as measured by the effectiveness their ability to provide disaster-related services to the victims via the state and local emergency response and recovery structures.

Historically, FCOs have been senior FEMA Regional Division Directors who were appointed by the President of the United States to manage a disaster. The appointee would leave his/her office to manage the disaster, often remaining on the scene for upwards of three, six, or even twelve months. This scenario presented a tremendous strain on both the individual, whose work accumulated on the office desk, and also on the FEMA regions as key leaders were pulled away for extended periods of time and were unable to manage their divisional responsibly while away.

The concept of a full-time, dedicated cadre of FCOs to manage disasters, from cradle to grave without having direct in-region responsibilities, was introduced in 1999. Congress provided the authority for twenty-five full-time, excepted service positions to be allocated to FEMA for duties as FCOs. These individuals were chosen from various backgrounds where they had exhibited superior leadership and decision-making skills. This collection of professionals became the foundation of the FCO cadre as it is designed today.

Immediately and upon his declaration of a major disaster or emergency, the President (of the United States) shall appoint a Federal Coordinating Officer to operate in the affected area.⁶ The provision goes further to delineate the four primary responsibilities of the FCO, who shall:

- Make an initial appraisal of the types of relief most urgently needed;
- Establish such field offices as he deems necessary and as authorized by the President;
- Coordinate the administration of relief, including activities of the state and local governments, the American Red Cross, the Salvation Army, the Mennonite Disaster Service, and other relief or disaster assistance organizations, which agree to operate under his advice or direction.
- Take such other action, consistent with authority delegated to him by the President, and consistent with the provisions of this chapter, as he may deem necessary to assist local citizens and public officials in promptly obtaining assistance to which they are entitled.⁷

From the above four denoted responsibilities, all other actions required to effectively manage a disaster situation are also implied. In the final analysis, once appointed by the President, responsibility for all the occurrences with all aspects of the federal response and support to state and local officials begin and end with the Federal Coordinating Officer. This fact extends to all hazards to which the FCO may be assigned. This could be nominal floods or tornados, which are for the most part commonly occurring events.

As a matter of public record, in fiscal year (FY) 2007 the president declared 63 major disasters for such occurrences as hurricanes, floods, tornados, wildfires, etc.⁸ This number represents an interesting trend. From FY 1953 to FY 2008 the average number of declared disasters per year was 32, but when aggregating the most recent years, FY

⁶ War and National Defense, *US Code* 50, Title 42, Sec. 2301, para 5143 (2003) <http://vlex.com/vid/19266381> (accessed October 5, 2008).

⁷ War and National Defense, *US Code* 50.

⁸ Federal Emergency Management Agency, "Annual Major Disaster Declaration Totals" FEMA, www.fema.gov/news/disaster_totals_annual.fema (accessed October 7, 2008).

1996 to FY 2008, the number of declared disasters was 55.8.⁹ The last year on record where the number of declared presidential disasters was only 32 was in 1995.¹⁰ Every year since then, the number of disasters declared has exceeded 32; and 1996 was the year with the most presidential declared disasters; in that year, 75 were declared.¹¹

The complex nature of the FCO position is evident from the discussion above. These same individuals who are appointed to lead the federal disaster response, with the modern-day average of 55.8 disasters per year, would now be appointed by the President of the United States to manage the federal response to a CBRN event also. This would be another intense level of complexity added to an already complex array of responsibilities.

B. PROBLEM STATEMENT

The National Strategy for Combating Terrorism written in September 2006, stated that “we [The United States] will prepare ourselves for possible WMD (CBRN) incidents by developing capabilities to manage the range of consequences that may result from such an attack against the United States or our interests around the world.”¹² In the face of American dominance in traditional forms of warfare, terrorists are seeking to acquire catastrophic capabilities, particularly weapons of mass destruction (and CBRN). The proliferation of WMD/CBRN technology and expertise makes contending with catastrophic challenges an urgent priority (for the government of the United States).¹³ The threat to the nation from an attack using CBRN is real and present. Finally, despite the nation’s best deterrent and mitigation efforts, terrorists attacks will happen, and officials must work to minimize the consequences of their occurrences.¹⁴

⁹ FEMA, “Annual Major Disaster Declaration Totals.”

¹⁰ Ibid.

¹¹ Ibid.

¹² White House, *National Strategy for Combating Terrorism* (Washington, D.C.: White House, 2006), 15.

¹³ Department of Defense, *National Defense Strategy of the United States* (Washington D.C.: Department of Defense, 2005), 3.

¹⁴ White House, *National Strategy for Homeland Security*, 30.

The core of the United States' efforts to minimize the consequences (from CBRN attacks) lies with a comprehensive approach for responding to and recovering from such incidents.¹⁵ The tangible and effective work to actually put words into action and minimize and reduce the consequences of a CBRN attack on United States soil should include all response and recovery stakeholders, but the FCO, as the lead federal manager during a declared disaster, is in a pivotal position affecting the success of the operations as a whole.

One of the primary goals of the Federal Emergency Management Agency (FEMA) Strategic Plan (FY 08- FY 13) is investing in people and that people will invest in FEMA to ensure mission success.¹⁶ It further advocates for an educated and experienced workforce that understands FEMA's multiple mission areas (of which CBRN response and recovery is paramount) and promotes the integration of FEMA programs and service.¹⁷ The Federal Coordinating Officers are the agency's primary conduit in the field to ensure those multiple missions are integrated with state and local partners and are ultimately achieved.

In March 2008, the Office of the Federal Coordinating Officer Operations, which is the office in FEMA directly under the FEMA Administrator that manages the day to day activities and assignments of the FCOs, developed a draft developmental document called the Federal Coordinating Officer, Chemical, Biological, Radiological, Nuclear and High Explosive (CBRN-E) Tiered Qualifications Plan (TQP).¹⁸ The necessity to develop a FCO specific TQP that addressed CBRN directly was a realization that some other training and developmental activities in the CBRN arena other than what is currently being provided was required. This thesis seeks to examine this realization and to further investigate the following assertion inferred by the need to commission a TQP,

¹⁵ White House, *National Strategy for Homeland Security*, 30.

¹⁶ Federal Emergency Management Agency, "Strategic Plan for FY 08-13" (initial draft for review, FEMA, Washington, D.C., 2007), 2.

¹⁷ Ibid.

¹⁸ The *FCO TQP* is currently under final review and implementation. It provides for a systematic process to ensure the FCO Cadre is equipped with the requisite core-competencies to manage operations in a CBRN environment.

to effectively manage large complex inter-organizational entities and collaboratively operate in a CBRN environment, Federal Coordinating Officers require skill sets and core competencies that are not being identified or promoted at any consistent level. Other important research questions include, do CBRN events require leaders to have unique specialized training, awareness, and education, which should be identified and addressed prior to having to confront such an environment? Is the current design and structure of the FCO cadre's response to CBRN events consistent with the goals of the various national plans and strategies discussed?

C. RESEARCH QUESTION AND OBJECTIVES

This thesis will examine the complexities of a CBRN environment and what makes those complexities unique to manage from a Federal Coordinating Officer perspective. The key research question is:

How should the preparation, education, training, and organization of FEMA Federal Coordinating Officers be modified to ensure their success in CBRN events?

In order to fully engage this most salient research question, the thesis will endeavor to examine the nature of the FCO cadre and the essence of senior leadership in a CBRN environment from the following key perspectives.

- **Tactical and Operational**

The tactical and operational concerns highlight what is being done at the first responder and follow-on forces levels. When addressing these two levels of response the focus tend to represent how policy and doctrine are put into action in the field. How is operating in a CBRN environment different? What key aspects of the environment will have a greater impact on critical decision making by the FCOs? What tactical and operational changes are required to increase efficiencies?

- **Legal Implications**

The federal government is taking a more proactive role in overall disaster management. As the federal government moves to take a more prominent role in CBRN response, what are the implications for the responders and, in particular, the FCOs? Will these legal nuances affect the way the FCOs respond? Do the FCOs understand the nature and scope of the legal imperatives?

- Media and Society

There appears to be a link between the media and societal attitude. The recent 2008 Presidential election demonstrated the power of the media to influence the public. The media reported more favorably on the democrat candidate and thus had more positive stories on that candidate. By a margin of 70 percent-9 percent Americans say most journalists want to see Obama, not John McCain, win.¹⁹ Did the seemingly slanted reporting by the media shape public opinion? If so, then can the slant also be applied to CBRN? The ability of the media to shape societal opinions is also true in the foreign policy arena. The public's actual opinions arise from framed information (by the media), from selected highlights of events (by the media), issues, and problems rather than from direct contact with the realities of foreign affairs (and domestic CBRN).²⁰ How will this media control of public opinion affect the FCO in a CBRN environment? What can the FCO do to control or manage the media? What assets are at the disposal of the FCO to use toward the goal of effective media management?

In addition, the research will examine the complexity of response and recovery as it relates to the FCOs and CBRN. While FCOs are involved in disaster declarations in both response and recovery on almost a daily basis, the complexities of CBRN are different and require a different set of competencies to manage. Even compared with the weapons of conventional terrorism, such as fire arms and high-yield explosives, CBRN weapons are particularly effective agents of terror and the terror-producing features of these agents must be understood and anticipated by clinicians and front-line responders.²¹ The methodologies of centralized leadership and decentralized leadership will be compared and contrasted in a CBRN response. Which approach is more appropriate in a CBRN environment? How does each affect the FCO?

A chapter in the research is devoted to a survey of the FCOs. The survey is included to record the perceptions and concerns of the FCOs themselves. The survey is a powerful tool used to garner information on FCO CBRN skill set and competency status

¹⁹ Pew Research Center for the People and the Press, "Most Voters Say News Media Wants Obama to Win," *News Interest Index*, Pew Research Center (October 22, 2008) <http://people-press.org/report/463/media-wants-obama> (accessed November 26, 2008).

²⁰ Robert Entman, *Projections of Power: Framing News, Public Opinion, and U.S. Foreign Policy*, (Chicago, IL: University of Chicago Press, 2004), 123.

²¹ Steven Crimando, "The Bio-Psycho-Social Consequences of Terrorism," *Supplement to New Jersey Medicine* 101, no. 9 (2004): 84.

as well as future developmental requirements. From this first order data collection, certain assumption can be made. Assumptions such as how well the FCOs feel they are now capable to respond effectively to a CBRN event. What do the FCOs feel their shortfalls are as related to a CBRN response?

The thesis goes further to make specific recommendations based on the surveys and researched information gathered. The recommendations are presented as tangible solutions to improving the state of readiness of the FCOs in CBRN environments. In summation, what this thesis does is to pull information from various sources, the federal government, the emergency management field, academia, the private sector, and the FCOs. From a compilation of the data a coherent path forward is provided.

D. HOMELAND SECURITY IMPLICATIONS

The primary purpose of this thesis is to address an important homeland security issue from the perspective of the lead federal manager, the FCO, who will be responsible for the federal support to state and local officials and to identify concrete steps that can be taken to achieve a greater degree of unity and effectiveness between all stakeholders responding to a CBRN event. In accomplishing this important purpose, the current state of FCO CBRN training and readiness must be ascertained, the certainty of the uniqueness of CBRN environment to other disaster environments established, and the nature of organizational complexity vis a vis the FCO and CBRN detailed. After the elements of these key subsets are researched and codified, a more effective CBRN modality for FEMA in general and the FCO specifically can be developed and implemented.

This thesis will add clarity to the dilemma of senior level leadership and management in CBRN environments that has up to this juncture been largely unexamined. In Homeland Security Presidential Directive (HSPD)-5, the Secretary of the Department of Homeland Security is responsible to administer a National Incident Management System (NIMS) to provide for a consistent nationwide approach for federal, state, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents (including CBRN), regardless of cause,

size, or complexity.²² The work presented herein will illuminate why there is a distinction between the size and complexity of CBRN events and normal disaster environments and will advocate a future strategy of targeted awareness and competency building for those Federal Coordinating Officers (FCO) with a high probability of being faced with managing staff in CBRN environments.

E. RESEARCH AUDIENCE

The immediate consumer of the information herein is the Federal Emergency Management Agency's senior leaders, other federal agencies' senior leaders, principal federal officials, and state and local senior response and emergency managers. This thesis will illustrate the current status of the FCO CBRN leadership/management environment as well as recommend a path forward that will bolster the operational readiness at the various jurisdiction levels in which the FCO interfaces.

The thesis will have a significant value to the homeland security national leadership posture by identifying significant deficiencies in the current level of readiness within the system, structure, and personnel as it pertains to CBRN events. The thesis will also examine a central, key function during a disaster, the Federal Coordinating Officer, and offer substantive insight as to what improvements can be made to ensure greater efficiencies in CBRN environments.

²² White House, *Homeland Security Presidential Directive (HSPD)-5* (Washington, D.C.: White House, 2003), 3.

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II. LITERATURE REVIEW

A. BACKGROUND

There is not a great amount of literature that focuses on the competencies required for Federal Coordinating Officer cadre to manage operations during a CBRN attack in the United States. Perhaps a good reason for this condition is that there have only been sporadic cases of such events and only on a relatively small scale. The 2001 anthrax attacks revealed the nation's vulnerabilities and suggested that a more widespread attack would have more serious consequences for the ability of this nation to function.²³ If these events were to be multiplied in their intensity and numbers, the core competencies of the national leadership would surely be tested. Authorities who contemplate how to respond to biological (nuclear, chemical and radiological also) attacks should base their plans on lessons from experiences in the broader sense; they should not consider their responsibilities and charge a completely novel task.²⁴

Within FEMA, the same structure that now responds to commonplace disasters such as hurricanes and tornados, will also be responding to CBRN events. The National Strategy for Homeland Security detailed certain key challenges to homeland security and beyond. One major challenge revealed is the fact that terrorist have declared their intention to acquire and use weapons of mass destruction (WMD) (CBRN) to inflict catastrophic attacks against the United States and its allies, partners, and other interests.²⁵ This thesis seeks to examine a key function in the federal response and recovery apparatus to such an attack, the Federal Coordinating Officer, who is the President of the United States' appointed representative in support of the state during disaster

²³ National Research Council of the National Academics, *Reopening Public Facilities after a Biological Attack: A Decision Making Framework* (Washington, DC: National Press, 2005), vii.

²⁴ *Ibid.*, 9.

²⁵ White House, *National Strategy for Homeland Security*, 6.

declarations, and determine if additional attention or approaches to training and organization will make the FCO better prepared to manage the consequences of a CBRN terrorists attack on American soil.

In today's world, America and its assets, both inside and outside the continental United States are rich targets for CBRNE attacks.²⁶ Because of this threat, key emergency response areas of concern are addressed in this thesis. These areas include: pre-event CBRN environments and what makes such an environment unique for managers; tactical and operational requirements; authorities and policies on the federal response and why the federal government has to be ready to act in such environments; legal oversight; political and societal relations; and media interactions.

1. Pre-Event CBRN Environments

There is much literature written on the effects inherent in a CBRN environment, just as much information is available for the more common hurricanes, floods, or earthquakes which are traditional disaster situations in the United States. Yet there is very little information available specifically for senior federal leaders, such as the FCOs, to be able to read, digest, and become better prepared for CBRN leadership duties. With that being noted, many and various general publications/documents detail processes and procedure for operating in CBRN environments, and some suggest the same principles will work in all atypical situations. For instance, the Nuclear Weapons Response Procedures Manual (NARP) provides a concept of operations as well as functional information necessary to execute a comprehensive and unified response to a nuclear weapon accident.²⁷ It is suggested therein that some of those same concepts, once learned, can be leveraged for chemical or biological environments as well. In addition the National Response Plan (NRP) contains a Terrorism Annex and a Nuclear/Radiological Incident Annex amplified by a base text that addresses key

²⁶ USAF Counter proliferation Center, "Final Report: Asymmetric Warfare Workshop: Fighting the Base; Protecting the Force," from Asymmetric Warfare Workshop, McLean, VA, January 17-18, 2006, 4.

²⁷ Department of Defense, *Nuclear Weapons Response Procedures Manual: NARP*, DoDD 3120.08-M (Washington, D.C.: Department of Defense, 2005), 2.

command and control aspects of a CBRN attack.²⁸ These two documents were replaced by the National Response Framework (NRF) in January 2008, but both the Terrorism Annex and the Nuclear/Radiological Incident Annex still have valuable utility for the responders. In particular, the Nuclear/Radiological Incident Annex provides an acknowledgment of the unique nature of a variety of nuclear/radiological incidents and the subsequent responsibilities of federal, state, local, and tribal governments in responding to them.²⁹

2. The Ever-Present and Emerging Threat

There exist several unclassified and easy to obtain publications that examine and detail just how easy it is to attack the United States using atypical weaponry. For instance, a manual for the production of an al-Mubtakkar, a crude hydrogen cyanide dispersal device, has been reproduced on numerous al-Qaeda websites since late 2005.³⁰ Since very little is done in the way of internet or publication monitoring and/or censorship, this information is readily available to those willing to attack the United States. This fact was brought to light when the before mentioned al-Mubtakkar, which again was found on the internet, appears to be nearly identical to the device intended for use in the aborted 2003 plot to attack the New York City subway system with chemical weapons (CW).³¹ These types of easily manufactured dangerous environments can be created quickly and the consequences differ from nominal disasters both in scope and intensity. Therefore, it is essential to expand the scope of knowledge of all emergency responders concerning chemical and biological agents in order to be prepared to operate

²⁸ The Department of Homeland Security, *National Response Plan* (2004) has been superseded by the National Response Framework (2008), but the Terrorism and the Nuclear/Radiological Annexes still provide valuable baseline information for CBRN operations that will benefit responders.

²⁹ U.S. Department of Homeland Security, "Nuclear/Radiological Incident Annex," in *National Response Plan* (Washington, D.C.: Department of Homeland Security, 2004), NUC-2.

³⁰ Sammy Salama, "Special Report: Manual for Producing Chemical Weapon to be used in New York Subway Plot Available on Al-Qaeda Websites since Late 2005" (Monterey, CA: Center for Nonproliferation Studies, 2006), 1.

³¹ Ibid.

safely and effectively should the need arise.³² Although there have been few terrorist acts involving CBRN agents to date, intelligence agencies in the United States and abroad continue to warn that terrorist groups repeatedly have attempted to acquire or manufacture these weapons.³³

3. The Tactical and Operational CBRN Environment

A look at the tactical aspects of CBRN is found in some of the basic doctrine primarily produced by the military, which does have a history of preparing for CBRN attacks. Doctrine such as United States Marine Corps Order 3500.70 has some aspects that can be vetted for its applicability to civilian senior leader implementation. The purpose of the manual is to promulgate training policies, procedures, and standards for NBCD (Nuclear, Biological and Chemical Defense) specialists and officers who will assist in maintaining a high level of combat readiness.³⁴ This is precisely what could be helpful for the FCO cadre and other senior civilian CBRN leaders, yet such comprehensive manuals have yet to be developed for their use.

The same will hold true for the operational assessment. Both military and civilian organizations are just beginning to attempt to shape a consensus on the CBRN operational landscape due to a terrorists attack. Institutions such as the University of South Florida have been doing excellent work in defining some CBRN operational parameters. Operational tools such as the WMD Agent Quick Reference Guide are useful, handy pocket resources in the hands of senior leaders.³⁵ Yet, the extreme technical nature of the guide may be too detailed for the FCO to be able to use effectively. Nevertheless by looking at such literature some operational concepts can be introduced that are not widely used in normal disaster environments. This is a primary,

³² John Medici and Steve Patrick, "Supplement 14: Emergency Response to Incidents Involving Chemical and Biological Warfare Agents," in *Hazardous Materials Response Handbook*, 3rd ed. (Quincy, MA: NFPA, 1997), 2.

³³ Crimando, "The Bio-Psycho-Social Consequence of Terrorism," 85.

³⁴ United States Marine Corps, "Order 3500.70," in *Nuclear, Biological and Chemical Defense Training and Readiness Manual*, C 469 (Washington, D.C.: Department of the Navy, 2004), 1.

³⁵ University of South Florida, Center for Biological Defense, "WMD Agent Quick Reference Guide: Biological/Chemical Agents," www.bt.usf.edu (accessed November 14, 2008).

necessary step in the development of more effective FCO leadership for CBRN environments—to be able to borrow from the processes and policies that are already developed and apply them, where applicable, to the federal managerial role in CBRN events.

4. Federal Authorities in CBRN Environments

The authorities that an FCO will have in a CBRN environment are not as succinctly spelled out as one would hope, but with a careful exploration of some readily available documents and publications, a clearer picture can emerge. Legal authorities and the dissection between federal and state's rights are always a concern in most disaster environments and it is expected to increase exponentially in a CBRN event. The Stafford Act and the Domestic WMD Incident Management Legal Desk Book,³⁶ which is the predominant book now used by military lawyers attending military law schools, are both basic documents for the FCO to read and understand.

Other current literature tends to suggest much direct evidence that the federal government is assuming a more proactive role in the preparation, response, and recovery from attacks on the United States. There seems to be a deliberate shift from the traditional process of being reactive and waiting for the states to exhaust all resources before engaging at the federal level. The focus now is becoming more proactive. The objective of the United States government is to ensure all levels of government across the nation have the capability to work efficiently and effectively together, using a national approach to incident management.³⁷ An interpretation of that objective can suggest that by assuming this posture and stressing that the federal government is ultimately responsible, it de facto transfers the primary onus from state and local jurisdictions and places the responsibility on the federal government and, as the proxy the senior federal response manager, to the FCO. Another such indication of this possible juxtaposition is imbedded in one of the four conditions for the federal government to utilize resources to

³⁶ Defense Threat Reduction Agency, *Domestic WMD Incident Management Legal Desk Book*, (Fort Belvoir, VA: DTRA, 2003).

³⁷ White House, Homeland Security Presidential Directive/HSPD-5 (Washington, D.C.: White House, 2003), 1.

recover from a terrorists attack; condition four states that the Secretary of Homeland Security [may be] directed to assume responsibly for managing the domestic incident by the President [of the United States] .³⁸ This seems to imply that the President of the United States can unilaterally override the wishes of a governor and assume managerial control of a CBRN incident if the President so desires. If this were to occur the FCO, as the President's direct representative, would be placed in an unstable position as conflict between the federal and state leadership could arise.

In addition, the Federal Emergency Management Agency (FEMA) Strategic Plan calls for the agency to be the nation's preeminent emergency management agency, and to strengthen partnership and professionalize the national emergency management system.³⁹ Inherent in that approach is for FEMA to take a more prominent role in shaping the federal government's and state and local jurisdictions' emergency management posture. Of particular interest is a listed strategic objective within the strategic framework states that FEMA will provide doctrinal and programmatic guidance to all levels of government and all external partners.⁴⁰

One of the main tenants of the National Response Framework (NRF) is a challenge to deliver effective emergency management in an environment of relatively high turnover and short tenure among elected and appointed officials responsible for incident management at all levels.⁴¹ This begins to establish the rationale for the federal government to exercise the option of federal (Presidential) control over a CBRN even within a state's borders. Since the state and local officials have a high turnover rate and short tenure, the argument could be made that the federal government has a greater capacity to respond and recover.

³⁸ White House, Homeland Security Presidential Directive/HSPD-5, (Washington, D.C.: White House, 2003), 1.

³⁹ Federal Emergency Management Agency, *FEMA Strategic Plan Initial Draft Framework* (Washington, D.C.: FEMA, 2007), 1.

⁴⁰ *Ibid.*, 7.

⁴¹ U.S. Department of Homeland Security, "National Response Framework" (Pre-decisional and deliberate draft, Washington, D.C.: FEMA, 2007), 2.

Another realization of the federal government having more statutory authorities over state and local jurisdictions is found in the Post-Katrina Emergency Management Reform Act of 2006-A Bill amending the Homeland Security Act of 2002 to establish the United States Emergency Management Authority and for other purposes.⁴² In Title I Section 101 (National Preparedness) the FEMA Administrator is directed to ensure state, regional, and local emergency preparedness by establishing minimum performance requirements for public and community preparedness.⁴³ This clearly establishes the federal government's oversight role, and since funding state and local equipment, training, and other emergency management endeavors is also attached to this relationship; it is becoming more solidified and institutionalized.

5. Political and Societal Nature of a CBRN Event

Politics and its intersection with society are ever present in even normal disaster situations. The FCOs are constantly striving to satisfy the needs of the congressional delegation, which of course works for their constituency, the society at large. The literature suggests that due to the unique nature of a CBRN attack, the FCOs will have a much greater challenge in trying to ensure both the needs of the politicians and society are met.

The one single document that is commonly available and shows the relationships between the various jurisdictions is the National Response Framework (NRF).⁴⁴ With the recent initial release of this major publication, it is assumed that the political landscape is now clearer for the FCOs, but since the NRF has not been tested under a true catastrophe as yet, the document's real validity is still undetermined, and until the NRF is proven effective in a CBRN event, questions in the minds of the responders may still be unanswered. After reviewing the NRF, a senior state director had the following

⁴² 110th United States Congress, "S.3721: Post-Katrina Emergency Management Reform Act of 2006," (reported to the Senate amended, August 3, 2006) <http://www.govtrack.us/congress/bill.xpd?tab=summary&bill=s109-3721&page-command> (accessed October 25, 2007).

⁴³ Congress, Post-Katrina Emergency Management Reform Act, 1.

⁴⁴ U.S. Department of Homeland Security, *National Response Framework* (Washington, D.C.: Department of Homeland Security, 2008), 3.

assessment “The current Framework is not a plan. The document reads more like a primer for state and local officials, which is a valuable resource, however not a national plan for responding to disasters.”⁴⁵

The strictly societal implications of a CBRN attack on a major city are difficult to define since it has not happened before. However, questions do persist as to the degree in which a modern American society could endure such an occurrence. A look at the way society reacted to the events of Hurricane Katrina, found in the congressional report *Failure of Initiative*,⁴⁶ along with the report from the attacks of September 11, 2001, *Failure of Imagination*,⁴⁷ are both potential mirrors into the psyche of American citizenry during disasters. Probably the most poignant finding that encapsulates the current condition of American society was detailed in the Select Committee report, *Failure of Initiative*. The report noted in the response to Hurricane Katrina that the United States are still an analog government in a digital age.⁴⁸ This is a terse way of saying that the systems in place to respond to events such as Hurricane Katrina are outdated and that also suggests the even more complex response environment of a CBRN event has a further gap in response capabilities. This thesis will make recommendations that will transition the FCO cadre from the analog age to the digital age and beyond where CBRN response and recovery is concerned.

6. Managing the Media in a CBRN Event

The FCOs’ understanding of the media is important for a better awareness as to how the media galvanizes and what its main priorities are during disasters and, more importantly, in catastrophes like a CBRN event would be. The media’s true role is to

⁴⁵ New Mexico Department of Homeland Security and Emergency Management, “NMDHSEM State Director Testifies on Capital Hill: Critiques on National Response Framework, 1, (September 11, 2007) <http://newsroom.nmdhsem.org/cms/kunde/rts/newsroomnmdhsemorg/docs/712264230-09-18-2007-14-07-18.htm> (accessed November 13, 2008).

⁴⁶ Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina, *A Failure of Initiative*, 109th Cong., 2d sess., 2005, Committee Print, 1.

⁴⁷ National Commission on Terrorist Attacks on the United States, *The 9/11 Commission Report*, (Washington, D.C.: National Commission on Terrorist Attacks on the United States, 2004).

⁴⁸ Select Bipartisan Committee, *Failure of Initiative Executive Summary*, 1.

ensure there is preparedness to deal with disasters.⁴⁹ There is an assertion that communications (between responding stakeholders) during a major disaster has not adequately improved (since Hurricane Katrina) and remains a critical issue requiring additional effort.⁵⁰ These types of communications capabilities between the responders themselves, internal, and between the responders and the press, external, are sure to be tested in a CBRN response. The media has two important functions: first, to ensure the government acts quickly in times of crisis and, secondly, to highlight success stories and enthuse those working in disaster areas.⁵¹

What has changed since Hurricane Katrina and continues to evolve is the speed and modes in which information travels. The rise of such data transfer vehicles, such as “Twitter,” is an example of this information evolution. Twitter is a service for friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to simple questions.⁵² The utility of twitter as a disaster information tool was displayed on several occasions:

Twitter users in Southern California during the wildfires used the tool to do local reporting for the benefit of neighbors. Even for people who were evacuated and didn't have a computer, they could follow the updates on their cell phones. Twitter users were also able to broadcast live updates on the Minnesota bridge collapse just minutes after it happened and before many news outlets could get the details out to the public.⁵³

In addition, the use of the cell phone video technology continues to improve. It is now more likely that someone who has a cell phone capable of recording video or photos will be on the scene of a disaster before television crews arrive (and certainly before the

⁴⁹ Sunil Jain, “The Media and Other Disasters” (at the International Conference on Total Disaster Risk Management, Kobe, Japan, December 2-4, 2003), 109.

⁵⁰ Institute of Food and Agricultural Sciences, “Getting the News Out in Time of Disaster,” Section 19.42 in *The Disaster Handbook- National Edition* (Gainesville, FL: University of Florida, 1998), 1.

⁵¹ Jain, “The Media and Other Disasters,” 109.

⁵² Twitter, “What is Twitter?”(2008) <http://twitter.com> (accessed November 14, 2008).

⁵³ Jennifer W. Maderazo, “Twitter Helps with Reporting, Filter the News,” Media Shift, (May 9, 2008), <http://www.pbs.org/mediashift/2008/05/twitter-helps-with-reporting-filtering-the-news130.html> (accessed November 14, 2008).

first responders). The results of this phenomenon are the potential for immediate and dramatic footage of disasters.⁵⁴ This footage will be available to the worldwide media without vetting or sanitizing for content.

The FCO and the Joint Field Office are on the front lines to mount a communications campaign both internal and external to ensure the proper message is being provided and that correct information is being given to the public to ensure protective actions can be taken in a timely manner. During Hurricane Katrina massive inoperability had the biggest effect on communications, limiting command and control, situational awareness, and federal, state, and local officials' ability to address unsubstantiated media reports.⁵⁵ To address such discrepancies in a CBRN environment, the FCO and the Joint Information Center's (JIC) ability to be astute, viable, and nimble will have to emerge.

B. SUMMARY

The review of the literature that discusses the Federal Coordinating Officer's (FCO) function and the various aspects of CBRN have sufficient material, but a clear understanding of how the FCO would function in a CBRN environment is not presented. What the literature does cover is an acknowledgement of the unique nature of a CBRN event, the present threat to the United States from terrorism is well-documented, the tactical and operational nature of CBRN and WMD is defined but only from a military perspective, and the societal implications of a CBRN attack on United States soil is well discussed. The literature is less definitive of the legal implications of an attack and what that would mean for the various jurisdictions affected and the ability of the senior responders such as the FCOs to manage media affairs.

Where the literature is lacking most however is in the defining of specific preparedness, response, and recovery principles and practices for the FCOs to successfully manage and lead in complex CBRN environments. This thesis will do

⁵⁴ Brian Houston, "Cell Phones, Disasters, and Youth," The Prevention Researcher (September 25, 2008) <http://blog.tpronline.org/?p=73> (accessed November 14, 2008).

⁵⁵ Select Bipartisan Committee, *Failure of Initiative Executive Summary*, 3.

precisely that. It will examine the difficult functions of an FCO from the complexity of a CBRN attack. The threat of a CBRN attack is real and is well-stated in this body of work, yet the current preparedness level of the FCOs to be ready to respond is in doubt because there are very little published processes and policies to guide them. Identifying and embracing pragmatic measures that reduce the consequences of unexpected events [such as a CBRN terrorists attack] is not a defeatist position; it is the smart thing to do.⁵⁶ This thesis will further illuminate the key aspects and challenges facing the FCO in a CBRN environment, and it will offer a solution set toward more effective federal management in such events.

⁵⁶ Stephen Flynn, "Preparing for the Worst," in *The Edge of Disaster* (New York: Random House, 2007), 154.

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III. HOW CBRN ENVIRONMENTS DIFFER

A. HOW CBRN ENVIRONMENTS ARE DIFFERENT FROM NOTIONAL DISASTER ENVIRONMENTS

The United States has never truly had to respond to a large-scale CBRN attack. The World Trade Center and Oklahoma City were both horrific, but both were limited both in target selection and in size, and neither attack used CBRN. Furthermore, of the various types of special disaster situations, the high explosives are arguably the easiest to manage because there are usually little to no residual effects from their use. The fact that there is (sometimes) no single impact (like a large bomb) event to alert the population that a hazard exists, coupled with the invisibility of the harmful agent, has an immense effect on the public's reaction to the (CBRN) terrorists event.⁵⁷ Therefore, with this added dimension of complexity for responders, CBRN events remain the most challenging situations with residual concerns that senior leadership has the least experience in managing.

Furthermore, the Post-Katrina Act defines a catastrophic incident as any natural disaster, act of terrorism, or other man-made disaster that results in extraordinary levels of casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, or government function in an area.⁵⁸ By that definition, an attack using CBRN at any level beyond just the simple use of white powder in envelopes would conceivably qualify. Surely by the insertion of the criteria of national morale, the bar has been set at a level where even smaller events could be defined as catastrophic due to the impact on the national psyche. Just by the mere introduction of the elements of CBRN, the traditional pathways to disaster response and recovery are altered. Responses to WMD (CBRN) terrorists' attacks differ from response to natural

⁵⁷ Steven Crimando, "The Bio-psycho-social Consequences of Terrorism," Supplement to New Jersey Medicine, September 2004, vol. 101, no. 9, 86.

⁵⁸ U.S. Government Accountability Office, *Emergency Management: Observations on DHS's Preparedness for Catastrophic Disasters*, Publication No. GAO-08-868T (Washington, D.C.: Government Accountability Office, 2008), 2.

disasters. First responders (and follow-on forces) need to deal with the effects of the WMD (CBRN), which may be different than the effects from a natural disaster.⁵⁹

This chapter will examine and highlight some of the key ways that responding to a CBRN event would be different than responding in a normal disaster environment. The experience level of responders, the concerns with site-remediation and harmful CBRN environments, and the expectation that outside media influences may cause the FCO additional confusion will be touched on briefly as it is important for the FCO to recognize these factors in a CBRN response. However, the legal implications, media and societal concerns along with the tactical and operational aspects of a CBRN environment will be discussed in greater detail as these are the primary areas of concern that provide the greatest disparity from the way FCOs conduct traditional response and recovery operations on a daily basis and the complex world of CBRN response and recovery.

1. Experience Level of Responders, Leadership, and Staff

Since the United States has not experienced a major attack on its soil with chemical, biological, radiological or nuclear weapons—but it has had two attacks by the use of explosives, the Oklahoma City Federal Building bombing and the attacks of September 11, 2001—the knowledge base as to what is required to respond in such events is somewhat limited and restricted to a few jurisdictions within the country. Not to mention the fact that since over seven years has passed since the last major attack, much has changed in the ways of emergency response, and many of the key responders in those events have long since retired or otherwise moved on. For example, the state of New Mexico's Office of Emergency Management had a historically high vacancy rate of 35 percent in 2006.⁶⁰ Other states are in the same position.

In essence, since the turnover rate for emergency management officials at the state and local levels is high, it will be even more imperative that the federal partnership

⁵⁹ Center for Army Lessons Learned, *Catastrophic Disaster Response Officer's Handbook: Techniques and Procedures*, Publication No. (2006) <http://call.army.mil/docs/06-08/06-08.pdf> (accessed November 14, 2008).

⁶⁰ State of New Mexico Legislative Finance Committee, *Homeland Security Act, Fiscal Impact Report* (2006), 3.

component of the emergency management team be solid and cohesive when dealing with an event as devastating as a CBRN attack to ensure continuity and unity of effort across the board.

2. Site Remediation

CBRN events will have residual consequences that must be addressed; especially considering the residuals could be harmful to workers and residents for years to come. Past cases of accidents involving nuclear weapons and the spread of contamination have revealed such incidents to be very difficult challenges for leaders.

The nuclear weapons accident that occurred in 1966 in Palomares, Spain, provides some good indications of the issues to be faced when dealing with widespread contamination. The Palomares accident occurred on January 17, 1966, when a United Air Force B-52 bomber collided with a USAF KC-135 aircraft. The mid-air collision caused two of the four thermonuclear weapons onboard to release radioactive materials. This resulted in a three-month response to identify, characterize, remove, and remediate dust and debris contaminated with plutonium.⁶¹ In those three months following the event, 1,700 U.S. personnel and Spanish Civil Guards worked to decontaminate the area. An estimated 1,400 tons of radioactive soil and vegetation was excavated and sent to the United States for disposal (at the Savannah River Plant in Georgia) and crops of tomatoes were buried or burned at a location near the site. Through all this, U.S. personnel wore protective clothing and underwent regular radiation checks; such measures were not taken for the Spanish workers. The Air Force commander in charge later stated, "The United States Air Force was unprepared to provide adequate detection and monitoring for its personnel when an aircraft accident occurred involving plutonium weapons in a remote area of a foreign country."⁶²

⁶¹ United States Air Force Medical Services, "Air Force Releases reports on Palomares, Spain and Thule Airbase, Greenland Nuclear Weapons Accidents," <http://airforcemedicine.afms.mil/latestnews/palomares.htm> (accessed October 4, 2008).

⁶² Steven Schwartz, *Broken Arrows: The Palomares and Thule Accidents*, *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940* (Washington, D.C.: Brookings Institute Press, 1998) http://www.brookings.edu/projects/archive/nucweapons/box7_3.aspx (accessed December 6, 2008), 1-2.

The above event was accidental, occurred in 1966, and was located in a mainly rural area. Similar plutonium contamination and the clean-up practices would be required if the event were a true targeted terrorists attack in an urban setting in 2008, but there would be a much greater degree of complexity.

The state and local governments would have the primary responsibility for planning the recovery of the affected areas.⁶³ This would be the case should a nuclear weapon accident response be required or other chemical, biological, or even radiological event were to occur. It would require the establishment of some form of a Site Remediation Working Group (SRWG). For nuclear and radiological events, the SRWG is an organization formed with the sole purpose of focusing on site remediation issues and draws its expertise from various elements (federal, state, and local) that respond to the event. Membership in the SRWG will vary depending on the extent (and type) of contamination.⁶⁴ Another such specialized team is the Federal Radiological Monitoring and Assessment Center (FRMAC) which is established at or near the scene of an incident to coordinate radiological assessment and monitoring.⁶⁵ Both of these capabilities would normally be employed should an attack using radiation or nuclear material occurs.

These capabilities will be under the guidance and direction of the FCO and Joint Field Office's Unified Coordination Group. If the origin of the attack was chemical or biological similar specialized groups would also be formed. At present the FCO cadre does not have experience in either organizing or working with such groups, and there would be a learning curve on the part of the assigned FCO to gain his or her knowledge bearings on such topics.

3. Harmful Environments Caused by CBRN Attack

An important role of the FCO is to ensure the safety and welfare of the members of the Joint Field Office. This is normally "job-1" listed on the incident action plan

⁶³ U.S. Department of Defense, Nuclear Weapon Accident Response (NARP) Procedures Manual, Publication No. DoDD 3150.8-M (Washington, D.C.: Department of Defense 2005), 115.

⁶⁴ Ibid., 116.

⁶⁵ DHS, "Nuclear/Radiological Incident Annex," NUC-2-2.

(IAP).⁶⁶ In hurricanes, earthquakes, tornadoes, and floods, the steps or tasks to perform to accomplish this objective and yet still have a rapid battle rhythm toward dealing with the event are a matter of routine because this particular objective is accomplished so often. In a CBRN environment, just how to remain safe and yet achieve the mission will likely be an unknown which may cause undue delay in getting things accomplished.

This is even compounded more in biological/pandemic type events where the responders can become vectors themselves and can, in fact, infect and kill each other or the population they are serving. In a response process that is predicated on the face to face relationship and partnership with a facility like a Joint Field Office (JFO), this is a legitimate concern for FCOs. It is counter-intuitive to have a JFO that is not collaboratively staffed both in space and people at a location in a building, but the nature of CBRN environment may dictate exactly such an approach, if by bringing employees together in a single location some could be infected.

4. Outside Media Influences Causing Confusion

Throughout America, there are countless organizations with clear political agendas. Many of these have invested a great deal of money and effort into advancing their causes.⁶⁷ They tend to hire retired scientists, contractors, and other such learned and non-learned people to come on the airways to critique every move and decision made by senior leaders such as the FCO and the Unified Coordination Group. With the competitive and voracious appetite of the 24 hour media outlets, the management of expectations and credibility of actions taken will be questioned. This will occur not only from the established media, but also from private, innovative sources. For instance during hurricane Katrina, national attention was gained by the “Slidell blogger.” Later dubbed the accidental journalists, he provided an alternate source of information that was

⁶⁶ In ICS, Incident Accident Plans provide the JFO staff with the Unified Coordination Group’s objectives for the operation period. Most IAPs begin with the primary objective to “Ensure the Health and Safety of the JFO Staff.”

⁶⁷ Clayton McCook, “Media Giant Tries to Shape Public Opinion,” *The Daily Campus* (October 20, 2004) <http://media.www.dailycampus.com/media/storage/paper340/news/2004/10/20/Commentary/Media.Giant.Tries.To.Shape.Public.Opinion-774255-page3.shtml> (accessed on December 6, 2008).

unchecked and uncontrolled.⁶⁸ If a CBRN event were to occur the FCO should expect and plan for this type of activity to occur and develop plans to deal with this wave of traditional and non-traditional media interest. Failure to properly manage these types of media influences on public opinion could cause the public to lose confidence in the actions the government is taking to deal with the consequences of a CBRN event.

5. Legal Implications of CBRN Events

The federal government is assuming a more proactive role in the preparation, response, and recovery from attacks on the United States. In congressional research findings, it was determined that state and local emergency response personnel are not adequately prepared or trained for incidents involving nuclear, radiological, biological, or chemical materials.⁶⁹ In response to the assumed validity of this finding, the federal government has made a deliberate shift from the traditional process of being reactive and waiting for the states to exhaust all resources before engaging at the federal level.

The objective of the United States government is to ensure all levels of government across the nation have the capability to work efficiently and effectively together, using a national approach to incident management.⁷⁰ By assuming this proactive posture and stressing that the federal government's ultimately responsibility, it can be argued (and is argued in this thesis) that the primary onus, and some would suggest the legal responsibility, has transferred from the state and local jurisdictions to the federal government.

Another indication of this subtle responsibility shift is imbedded in one of the four conditions for the federal government to utilize resources to recover from a terrorists attack.⁷¹ Condition four states that the Secretary of Homeland Security may be directed to assume responsibility for managing the domestic incident by the President of the United

⁶⁸ Albert May, *First Informers in the Disaster Zones: The Lessons of Katrina* (Washington, D.C.: Aspen Institute, 2006), 15. http://www.aspeninstitute.org/atf/cf/%7BDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7D/C&S_first_responders.pdf (accessed October 21, 2008).

⁶⁹ War and National Defense, US Code 50.

⁷⁰ HSPD- 5, 1.

⁷¹ Ibid.

States).⁷² The Federal Emergency Management Agency Strategic Plan calls for the agency to be the nation's preeminent emergency management and preparedness agency.⁷³ FEMA is now in a leadership role and must set the standard for emergency management across the nation and help build strong relationships among its partners.⁷⁴ Inherent in this policy approach is for FEMA to take a more prominent role in the federal government and to more closely engage the state and local governments. Whenever FEMA is called to assume a leadership role, the FCOs become the main instrument to perform that leadership task in the field and certainly in a CBRN related declared disaster.

One of its main tenants of the new National Response Framework (NRF):

One of the challenges to effective response is the relatively high turnover and short tenure among elected and appointed officials responsible for response at all levels. Effective response hinges upon well-trained leaders and responders who have invested in response preparedness, developed engaged partnerships, and are able to achieve shared objectives.⁷⁵

In dealing with common hurricane response, this is hampering readiness. There is a high turnover rate in the state and county emergency management agencies (EMA) resulting in new personnel unfamiliar with items such as Hurricane Evacuation System products.⁷⁶ If state, county and local emergency management agencies are unfamiliar with issues involving hurricane responses that they know they plan for and practice every year prior to the annual June first start of the official hurricane season, then how much less prepared will these same personnel be when dealing with CBRN issues that are not annual in nature and are sometimes off their list of priorities?

The overall lack of trained staff in some states coupled with the aforementioned high turnover rates in some states may leave certain jurisdictions less prepared and perhaps more willing to shift or forgo legal matters in deference to the federal

⁷² HSPD- 5, 1.

⁷³ Federal Emergency Management Agency, Strategic Plan for FY 08-13, 2.

⁷⁴ Ibid.

⁷⁵ DHS, National Response Framework, 2.

⁷⁶ "2004 Hurricane Assessment Concerns and Recommendations," <http://chps.sam.usace.army.mil/USHESdata/Assessments/2004Storms/2004-Recommendations.htm> (accessed December, 6, 2008), 1.

government, who is normally perceived as better prepared and trained for CBRN events. Another point of emphasis pursuant to the federal government having more statutory authorities over state and local jurisdictions is found in the Post-Katrina Emergency Management Reform Act of 2006. In Title I Section 101 (National Preparedness) the FEMA Administrator is directed to ensure state, regional and local emergency preparedness by establishing minimum performance requirements for public and community preparedness.⁷⁷ This clearly establishes the Federal government's oversight role in preparedness to include CBRN, and since funding state and local equipment, training, and other emergency management endeavors is also attached to the this relationship, it is becoming more solidified and institutionalized.

As the federal role becomes more prominent, this places the expectations even more prevalently on the senior federal managers to be proficient in all types of disaster possibilities, which includes the more complex CBRN event where the state and local stakeholders have even less experience in managing than managing the consequences of a traditional disaster event. The unique responsibilities and legal uncertainty across the board are exponentially increased in a CBRN environment. The response and recovery landscape is untested because the nation has yet to experience a major CBRN attack that requires the full complement of organizational assets and legal intricacies to respond.

The following statement concerning the federal involvement was more prevalent post-hurricane Katrina than today, "[The] degrees of involvement in the initial response phases through the recovery phase [in a CBRN event] will vary depending on the type of crisis and the ability of the local and State authorities to manage it."⁷⁸ The new, more proactive approach calls for the federal government, and in particular the new FEMA, to be on the ground and engaged immediately and sometimes even before a formal request from a governor is made.

The issue of who is in charge and when they are in charge is commonly a major concern. First responders at the state and local level would manage the initial

⁷⁷ Congress, Post-Katrina Emergency Management Reform Act, Section 101.

⁷⁸ DTRA, *Domestic WMD Incident Management*, 1-4.

consequences of a CBRN event, and each state is primarily responsible for law enforcement activities during an emergency or disaster.⁷⁹ However, the federal government has primary law enforcement responsibility for preventing and responding to terrorists acts, with State and local governments providing assistance as necessary.⁸⁰

At times, the sequence of responsibilities in a CBRN event can lead to great confusion for the FCOs. At times, the federal law enforcement and the state and local law enforcement communities may have differences of opinion. Since, legally and technically FEMA is not in charge of the event at any time in the continuum, it stands to reason that FEMA would be supporting either the federal, state, or locals officials in charge; the question of whose course of action to pursue could arise. At that juncture, the FCO would have to know legally to whom the support should be given.

This type of an intriguing scenario rarely occurs during the course of a natural disaster, yet during a CBRN event the legal jockeying could be the rule rather than the exception. In essence, the roles have become more prominent, yet there has not been a corresponding training and education process to ensure the key participants, of whom the FCO is a member, are abreast of the new normal. By distributing documents such as the NRF, the Post-Katrina Emergency Act, and the FEMA Strategic Plan, the notion of the federal government's prominent role in disaster response to include CBRN is perpetrated. A case can be made that the documents form a degree of legal sufficiency to the point that the federal government becomes legally bound. This will be an important factor for the FCO to understand especially considering the FCO's do not receive legal training at the moment.

B. MEDIA AND SOCIETY

Within minutes of an accident (or CBRN incident), the news media might be at the scene. The news media and local citizens shall seek information about how the event affects them. A proactive, comprehensive public affairs program is required to speed the

⁷⁹ DTRA, *Domestic WMD Incident Management*, 1-4 and 1-5.

⁸⁰ *Ibid.*, 1-5.

flow of information to the news media, the public, and internal audiences.⁸¹ The research in this thesis will ascertain the perspectives of the Federal Coordinating Officers as they pertain to the media, and determine if a gap exists in the perceived importance of dealing with the media in a CBRN environment and the perceived capability of the FCOs to manage the media in such an environment.

The importance of the relationship between the news media and society is examined next by looking at the media's relationship with the United States government and the growth of the public's reliance on the twenty-four hour news services.

1. Media Relations with the Federal Government

In catastrophic environments and events, the public often turns to the media for an understanding as to what is happening. The media has had a hit and miss relationship with government officials going back to the time of the founding fathers. The media have the constitutional right to acquire news from any source by any lawful means.⁸² The information is processed and delivered to the American public and the world in a matter of seconds- and sometimes without regard to the information's authenticity.

If a CBRN event were to happen on U.S. soil, the FCO, as the President's appointed representative, would be called upon properly manage critical disaster information and the media. In a crisis, people would be starving for information. If the FCO does not feed them (through the various media outlets), someone else will feed them, and it might be dog food (bad information).⁸³ This fact has to be recognized by the FCOs at all levels of competency.

In addition, in such environments the trust factor will be something that will have to be recognized. In several surveys, the public was asked who they would trust most as a reliable source of information if a bioterrorism event occurred in their community.

⁸¹ Department of Defense, *The Nuclear Weapon Accident Response Procedure Manual*, Publication No. 3150-8-M, (Washington, D.C.: Department of Defense, 2005), 183.

⁸² Center for Disease Control, *Crisis and Emergency Risk Communications: By Leaders for Leaders* (Atlanta, GA: Centers for Disease Control, n.d.), 43.

⁸³ *Ibid.*, 31.

Respondents trusted local health department, local physician, or hospital the most.⁸⁴ Since the results of such surveys in the past have been consistent and trending even more so to trust in the local officials being greater than federal officials, it would seem prudent for the FCOs to embrace the situation and capitalize on it by doing deliberate actions and outreach with the local level responder apparatus.

The new FCO Professional Development Program⁸⁵ is a step in the right direction as it requires FCOs to integrate and work with state and local officials on a periodic basis prior to any potential incident. Yet it falls short due to overlapping responsibilities of the FCOs and the speed of implementation. At present, selected FCOs have been informally assigned to emphasis duties in CBRN specialties, but being able to attend training to develop competencies is predicated on the operational tempo and disaster declarations.

The hurricane season of 2008 was an especially busy one and many of the projected competency building outreach, training, and exercises in CBRN was not accomplished. The FCOs that would have been dedicated to gaining CBRN competencies were by necessity tasked with hurricane response duties. Since the pool of potential FCOs is limited, the CBRN development activities had to take back seat. To develop skills in media relations that will be the cornerstone of societal perceptions during a CBRN event, FCOs will need to concentrate on perfecting this craft without having to be directed to other duties such as floods and hurricanes.

2. The 24-Hour News Cycle

Being forced to deal with the abundance of media requests is just a fact of twenty-first century government service, and of which the FCO is a primary player. As the President of the United States' directly appointed representative in a CBRN event, the

⁸⁴ Center for Disease Control, *Crisis and Emergency Risk Communications*, 4.

⁸⁵ The FCO Professional Development Program (PDP) is a new program to guide the FCOs through a series of developmental stages from a Type IV to Type I designation and to define key areas of interest for the FCO to pursue to aid in both the individual personal and professional development of the FCO.

media will want to hear from that FCO early and often. How well or how poorly the FCO conducts himself or herself will, to a large degree, shape the societal viewpoint of the success or failure of the federal response.

When it is all said and done, one can conceivably predict the types of disasters the various levels of community will face [to include CBRN], and one can predict the questions the public will have during the disaster (life saving, life sustaining, personal protection, etc.)⁸⁶ The challenge is to now take up the mantle and develop a process to ensure the collective national response stakeholder family exercise together as a federal, state, local, tribal, private sector, and news media team system to develop answers to these questions beforehand in the jurisdiction affected in the various languages that will be required. It is important to remember that not only will the victims of the terrorists act be affected but society at large.

The majority of victims and witnesses to traumatic events (CBRN would be one) experience distress reactions. These reactions include a range of physical, emotional, cognitive, and behavioral changes such as fear, anxiety, insomnia, and disturbance in eating, distractibility, and increases in the use of alcohol, tobacco, and other substances.⁸⁷ This could happen to citizens who were not personally affected but were witnesses to the event via the television or on the internet. Taking this factor into account the possible number of people who could be affected by an event nationwide is very large. The real risk is how the American public will react to that act of terror on U.S. soil.⁸⁸ The reaction of the responders will go along way to reassuring the public that they are safe.

Beyond actions taken by the FCOs at the Joint Field Offices, most local, city, and state health organizations have websites to address health-related concerns and rumors,⁸⁹ FEMA and the FCOs partnering with these entities and performing outreach to the communities would provide both valuable information and name/face recognition that

⁸⁶ Center for Disease Control, *Crisis and Emergency Risk Communications*, 5.

⁸⁷ Steven Crimando, "The Bio-Psycho-Social Consequences of Terrorism," 84-85.

⁸⁸ Steven Flynn, in Zack Phillips, "Snapping Back," *Government Executive* 39, no. 10 (2007): 40.

⁸⁹ Center for Disease Control, *Crisis and Emergency Risk Communications: Pandemic Influenza* (Atlanta, GA: Centers for Disease Control, 2006), 141.

would be valuable to reduce public anxiety. This protocol is best developed *prior* to an event occurring as it is often difficult to build credibility during a large event such as a major CBRN attack.

C. TACTICAL AND OPERATIONAL

The natural instinct of an FCO would be to actively engage the incident at the closest proximity possible. The current trend of FEMA and other federal agencies to lean forward and deploy resources would be normally pursued. Since the aftermath of hurricane Katrina, the leaning forward posture of the federal government has been the new rule rather than the exception. But like no other event, in a CBRN event, acting too swiftly and getting too close could cause harm to the responders from initial and follow-on effects, and if the leader does not understand this difference and factor-in those differences into the objective setting equation, the response forces under his charge could be at great risk.

The United States military provides a good model for addressing certain key high value, high consequence events. The military has a primary purpose to fight and win wars, just as FEMA has a mandate to coordinate the federal response and provide support to the states pursuant to a disaster or emergency declared by the President. Yet, the military goes further in preparing for CBRN (or as more commonly used in the military, NBC, for nuclear, biological and chemical). All branches of the military have additional and specific doctrine to address CBRN environments because those environments have been determined to be unique and require a different set of engagement practices. For example, the United States Marine Corps published a directive that deals specifically with NBC: the manual MCO 3500.7. The manual assesses training that prepares Marines to perform in combat. This manual is a fundamental tool for supervisors and commanders to build and maintain unit NBCD combat readiness.⁹⁰

FEMA, on the other hand, has not followed the same pathway. Responding to a CBRN event would require the FCO to make both tactical and operational decisions at

⁹⁰ USMC, "Order 3500.70," 1-2.

times based on the contaminated environment vice purely operational necessity. In the military, enemy attacks utilizing NBC weapons and agents generally are expected to cause some amount of residual and persistent contamination. In order to properly protect the force and make sound tactical decisions, the commander must know where contamination is located, its concentration, and the estimated duration of contamination.⁹¹ The FCO will need this same level of vital information only there are no organic FEMA forces that can provide such information. The FCO will have to mission assign (MA) other agencies such as the Department of Energy (DOE), Environmental Protection Agency (EPA), or even the Department of Defense (DoD). At present, the FCOs do not conduct regular training with the above agencies and have not been trained, even in a general sense, in the tools of CBRN contamination prediction.

Terror is fear, and the goal of terrorism is the creation of fear so intense that it disrupts the psychological, social, and economic functioning of individuals, communities, and nations.⁹² Hurricanes, floods, earthquakes, and other such traditional disasters are in and of themselves rooted in fear. Fear may become a byproduct, but not the design.

This chapter discussed the nuances of a CBRN event as compared to a traditional disaster event. The experience level of responders to address CBRN was discussed along with various site remediation groups/teams, harmful environments, the media, society, legal implications, and tactical operations.

What is clear is that CBRN disasters are unique and the FCOs will require a more specialized degree of preparation to be effective in dealing with the consequences of such an attack. Some tangible actions to pursue will be discussed in the recommendations chapter of this thesis.

⁹¹ USMC, "Order 3500.70," 153.

⁹² Crimando, "The Bio-Psycho-Social Consequences of Terrorism," 84

IV. ORGANIZATIONAL COMPLEXITY

A. ORGANIZATIONAL COMPLEXITY IN CBRN ENVIRONMENTS

Any organization has to have the proper structure to match its mission and goals in order to be truly effective. In addition, the leaders must embrace that structure and have an understanding as to how to ensure quality performance within the structure. For the Federal Coordinating Officer in a CBRN environment, the complexity of the challenges to be faced will make having the proper structure even more important. This chapter will examine the obstacles inherent in a centralized organizational structure by providing both an historical and contextual review of the problems faced by a very centrally managed Federal Emergency Management Agency (FEMA) during hurricane Katrina. Next, the concept of decentralization will be engaged from the FCO and FEMA perspective as the agency moves to an even greater consolidation and hierarchical management structure. To conclude this chapter, decentralization in the context of the Joint Field Office (JFO), Unified Coordination Group and the Federal Coordinating Officer will be addressed to include the bottleneck effect, external relationships, and creative energies as applied to managing in a CBRN environment.

1. Organizational Structure History

Historically, the constitution of the United States purposely keeps the federal government weak, while delegating significant powers to the states.⁹³ This decentralized approach to governance has proven very successful over the nation's 230 plus-year history. Nevertheless, governmental organizations and agencies have found it very difficult to duplicate the same principles of governance within their structures. Over the years, the federal government became (and continues to become) larger and more centralized, and the events of September 11, 2001 greatly accelerated the process.⁹⁴ It is a natural (organizational or agency) reaction, when attacked, to hunker down and adopt a

⁹³ Ori Brafman and Rod Beckstrom, *The Starfish and the Spider* (London: Penguin Books, 2006), 142.

⁹⁴ *Ibid.*, 142.

command-and-control mentality.⁹⁵ This centralization bias can reduce the ability of the tactical leaders such as the FCOs to make critical decisions on the ground which is often the essential aspect of success during fluid situations.

For example, during the response to hurricane Katrina in 2005, the organizational and operational model employed by FEMA was one of a consolidated construct. Viewed from that perspective, what subsequently happened in New Orleans was not necessarily any one individual's fault. Of course, as in any event, some individuals could have made better decisions, but the real culprit was the system itself.⁹⁶

The then FEMA director, Michael Brown, had instituted a policy that only a few key people could essentially speak to the media on behalf of the agency. In the world of emergency response, being able to speak for the agency or organization is equivalent to empowerment. This type of configuration with the director at the apex, being active in the tactical movement of resources, is the antithesis of what is advocated by those who favor a more decentralized operational structure to be effective in a fast-paced, dynamic CBRN environment

2. Examining Decentralization in the Context of the FCOs

Decentralized organizations can be so resilient that it is hard to affect their internal structure.⁹⁷ If the internal structure of the organization is intact then it can function. It is possible that lines of authority and responsibility are best when decentralized and empowerment is delegated throughout the entire organization and the unified command structure. As actions need to be taken they can be immediately approved and completed at the level nearest to the situation. No one knows more clearly as to what the concerns are than the people observing the situation first hand. Great ideas come from people closest to the ideas.⁹⁸

⁹⁵ Brafman and Beckstrom, *Starfish and the Spider*, 142.

⁹⁶ Ibid., 39.

⁹⁷ Ibid., 155.

⁹⁸ Ibid., 131.

In the example being discussed, like a modern day Montezuma,⁹⁹ once Mr. Brown was rendered ineffective because he lost trust with the Department of Homeland Security leadership, the Congress, the President, and most importantly the American public, the entire Federal Emergency Management Agency was rendered impotent. FEMA's attempt to rebuild trust continues to this day and has evolved into the new FEMA. The term "new FEMA" was used by the FEMA Administrator to convey the changing culture at FEMA by getting people to think more broadly in terms of results and the implementation of new practices and processes.¹⁰⁰ Incumbent in this new paradigm has been the quasi-militarization of FEMA. Much of today's American corporate thinking and strategies are heavily rooted in military strategy.¹⁰¹ It seems as though companies and organizations have seen the military perform well on the battlefields and assume the same processes can be transferred to various parts of American society, both in the public and private sector. As a good soldier should, FEMA has followed suit.

Looking at FEMA Operations Centers today is much like looking at a military operations center. The transformation even includes terminology to the point of retired military officers still being called by their former military ranks, the term operational tempo being substituted with battle rhythm, and federal, state and local assets now being called "blue forces" as everyday parlance.

It has been as if the storied history of the agency did not exist. It is as if the successes demonstrated at the massive 2004 Florida hurricanes, the many numbers of floods, earthquakes, and tornados responded to over the past 29 years never occurred. In the minds of the Congress, the other federal agencies, the media, and, more importantly, the American public, FEMA, and its staff were simply incompetent.

⁹⁹ Montezuma II was the leader of the Aztecs who was deposed by Cortes and since the Aztec society was so centralized once Montezuma II was killed the entire society fell within eighty days. (From Brafman and Beckstrom, *Starfish and the Spider*, 16-17.)

¹⁰⁰ "Director Paulison Lays out Vision for a New FEMA," *National Press Club*, Release No. FNF-06-019, November 30, 2006.

¹⁰¹ W. Chan Kim and Renee Mauborgne, *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant* (Boston: Harvard Business School Press, 2005), 6.

What if a more decentralized organizational model had existed in FEMA during hurricane Katrina? Immediately as Director Brown was removed from the leadership position, another official or several officials would have risen and taken the mantle. Confidence in the agency would have been maintained as actions to save lives would have continued at the level nearest to the situation as required. The subsequent wholesale changes in the agency perhaps would not have been demanded. Sometimes it is not what happens outside of the company (agency) that matters but what happens internally to make it succeed or fail.¹⁰²

In most armies or fighting forces, as the general goes so goes the organization. This puts an inordinate amount of pressure and responsibility on one person to be the lynch-pin and final arbitrator of the ultimate organizational success or failure. That has become the norm in America today both in the marketplace (and in government), to beef-up the image of the executive as being all-powerful.¹⁰³ Centralization, by its nature, implies a commonality, a central point; yet in today's fluid emergency response environment and especially in a CBRN event; this same centrality may well be the weakest link within the entire organizational and operational structure as speed and flexibility become precious, salient commodities in such milieus.

3. Decentralization May Be the Missing Element

The key to preparing the FCO's for operations in the chaotic world of CBRN response could well be the degree in which they are taught to apply and implement the tenants of a decentralized organization. An organization that does not rely on the leader for every move it makes is an organization that does not sink or swim merely on the fortunes of that one person. This is a unique concept in America and in government, and an even more counterintuitive notion for a Federal Coordinating Officer who is hired on his/her ability to take command and control of large groups of sometimes unfamiliar people, mold them into an effective staff, and then deploy to a chaotic scene where

¹⁰² Brafman and Beckstrom, *Starfish and the Spider*, 182.

¹⁰³ Craig Hickman and Michael Silva, *Creative Excellence: Managing Corporate Culture, Strategy, and Change in the New Age* (New York: New American Library, 1984), 37.

lifesaving decisions are made as a matter of routine. These types of lifesaving decisions will be even more problematic when a CBRN impetuous is involved.

Operational tempo, logistics operations, the health service support system (HHS), personnel support system (PSS), and reconstitution efforts as in the military model may be profoundly affected by the introduction of CBRN materials.¹⁰⁴ Yet in the military system, commanders spend many training hours developing their competencies to lead in such environments. It would be difficult at best for an FCO to be effective as the focal point for decision making when the requisite training, unlike the military, has not been provided. It can be also argued that training alone is not the answer because unlike the command responsibilities of a military officer, the FCO's primary task is coordination, and coordination is more difficult to achieve when those being coordinated are not compelled to follow.

4. The Current State of the Organizational Structure

At present the FCO and the established Joint Field Office (JFO) is the quintessential example of a centralized organization. The JFO is the primary federal incident management field structure; it is a central location for the coordination of organizations with the responsibility for response and recovery.¹⁰⁵ Not much happens unless the FCO (and the Joint Coordination Group on larger events) is aware and authorizes every thing that happens at the JFO is the sole responsibility of the FCO (or Joint Coordination Group). Staffs, even more experienced ones, tend to hesitate to speak up or act for fear of failure and reprisal.

In preparing Federal Coordinating Officers (FCOs) for CBRN environments it is suggested that a deliberate shift in leadership style has to occur which would be a great departure from the current system of centralized command and control to a more decentralized system leveraging the talents, skills, and competencies of all members of the organization and encouraging innovation, risk-taking, and critical decision

¹⁰⁴ Joint Chiefs of Staff, *Joint Publication 3-11, Operations in Chemical, Biological, Radiological, and Nuclear (CBRN) Environments* (Washington, D.C.: Joint Staff, 2008), xi.

¹⁰⁵ DHS, *National Response Framework*, 61.

management at all levels. Operations in a CBRN environment make sustainment planning (and operations) more complex.¹⁰⁶ FEMA, by design, focuses on sustainment, resilience, and reconstitution in conjunction with other stakeholders. The key baseline priorities include:

- activating people, resources, and capacities
- requesting additional resources and capabilities
- identifying needs and pre-positioning resources¹⁰⁷

Having a centralized, hierarchal protocol to accomplish the baseline priorities in the complexity and uncertainty of a CBRN environment, as discussed in Chapter III, will slow down the response to requests even more unless another approach is adopted.

The “wait to act until we talk to the boss” modality should be reconsidered, and the innovative gene has to be allowed to spread throughout the organization. Enlighten leaders do not have to have the vision (answers) themselves; they need only possess the willingness and ability to draw the vision (answers) from their people and inspire and empower those people to do what it takes to bring the vision (answers) into action.¹⁰⁸

Indeed enlighten leaders nurture and encourage their people to be open, creative, and innovative and find what it takes to achieve the shared objectives; and this brings out the best in people¹⁰⁹.

Without this paradigm shift, the current stovepipe will become too limiting as all decisions are funneled through a single chokepoint, creating both a bottleneck and also reducing the quality of decisions made simply by the overload of information coming into one single source for absorption, processing and adjudication. It is not that open systems necessarily make better decisions. It is, however, just that open systems are able to respond more quickly because each member has access to knowledge and the ability to

¹⁰⁶ Joint Chiefs of Staff, *Operations in CBRN Environments*, xi.

¹⁰⁷ DHS, *National Response Framework*, 35.

¹⁰⁸ Ed Oakley and Doug Krug, *Enlightened Leadership: Getting to the Heart of Change* (New York: Simon and Schuster, 1991), 19.

¹⁰⁹ Oakley and Krug, *Enlightened Leadership*, 19.

make direct use of that knowledge.¹¹⁰ When lives are at stake a quicker velocity of the decisions timetable is required to increase the probability of success.

The figure below graphically illustrates this concept:

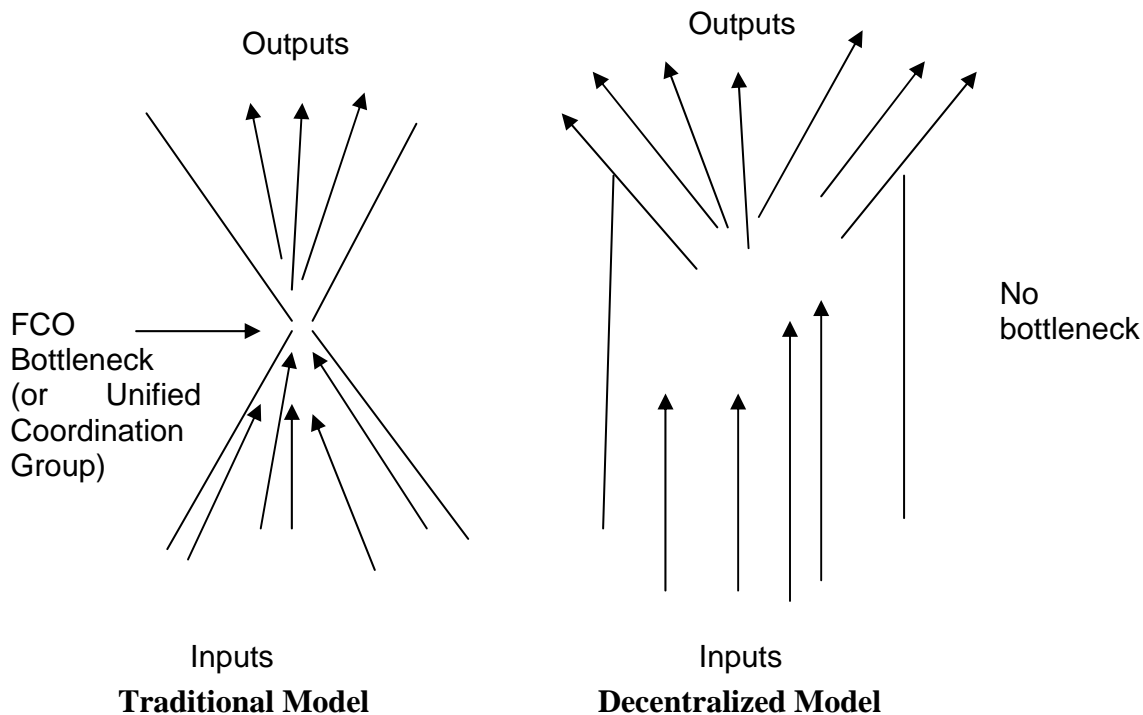


Figure 1. Comparison of Decision Making Models Traditional versus Decentralized

The outputs include both primary and support decisions on key CBRN concerns. Such concerns include things as decontamination, non contaminated evacuation, CBRN agent matrix, site remediation, safe disaster housing, workforce protection, plume projection, and many more requirements that are unique from normal disaster operational needs. Notice how in the traditional stovepipe command and control model depicted in Figure 1, decisions are funneled through one source, the FCO, and actions are not taken until approval is granted. This result in fewer decisions being made, some decisions falling by the wayside, and requiring more time for decision consideration as each input has to compete for time on the decision-makers docket. In today's flatter organizations, work of significance demands effective collaboration within and across functional,

¹¹⁰ Brafman and Beckstrom, *Starfish and the Spider*, 39.

physical, and hierarchical boundaries.¹¹¹ Having a single decision maker required to make a multitude of decisions before the organization can move forward is not effective. This myopic approach would be exponentially less effective in a chaotic CBRN environment. The environment is too fluid, robust, and multi-dimensional to have a bottleneck decision making entity like the current FCO one-stop shop structure to be successful.

Contrast this with the decentralized model where decisions are made in a free flowing, non-competitive basis, where there is not a bottleneck, and where the number of inputs creates more decisions (outputs) due to the sheer power of multiplication. One input can create more than a single output in very little time. In decentralized organizations, anyone can do anything.¹¹² Members do not have to report each action to any single head and they are responsible for that decision only to themselves.¹¹³ In essence, as with the arms of a starfish, the players in decentralized organizations when applied correctly, have relative freedom and can go in a multitude of directions.¹¹⁴

If people are responsible for the decision they make and they cannot pass the blame upwards to another person who is hierarchically senior to that person, at least on the standard organizational chart, then the decision maker at whatever level will concentrate of the task at hand and make decisions that will enhance his personal career and at the same time, and produce a more favorable outcome for the situation at hand. It is inconceivable that given true responsibility for decisions that people would not endeavor to make good choices.

An unintended byproduct of such an open system is that only true decision makers will apply to be a part of the system. In today's centralized systems, employees can reside on an organizational chart under a supervisor who is authoritarian, and that employee may never make a quality, relevant decision in the course of a career. Nor is

¹¹¹ Rob Cross and Andrew Parker, *The Hidden Power of Social Networks: Understanding How Work Really Gets Done in Organizations* (Boston: Harvard Business School Press, 2006), 13.

¹¹² Brafman and Beckstrom, *Starfish and the Spider*, 48.

¹¹³ Ibid., 48.

¹¹⁴ Ibid., 50.

the employee encouraged to do so. An ineffective system requires ineffective pieces in order to lumber its way through every day existence. People who enjoy such a monotonous environment will not seek to join an open, decentralized system where they would be forced to make quality decisions by virtue of being a member. Thus only quality people will choose to be associated with quality organizations, and as the organization prospers, the ones that cannot keep pace will simply depart, and, in typical starfish fashion, another arm (person) will come to take its place and prosper. All of this metamorphous is done with little to no effect on the total capabilities of the organization.

The models demonstrate how theoretically much more can be accomplished with a decentralized model and how decisions can build on each other without having to rely on a single input to stimulate the output. Essentially the one to one correlation is eliminated and productivity is exponentially increased. As productivity increases so does the probability of a more representative decision making process, and with more representation will come a greater degree of relevance- making the correct decision in a timely manner and with a high degree of accuracy.

5. External Relationships Thrive with Greater Decentralization

What the implementation of a decentralized system offers is the opportunity for the Federal Coordinating Officer to devote more time to external relationships than to being bogged down with decisions that can and should be made by the team members. Despite the wishes of most leaders and managers, there are still only 24 hours in each given day and in those 24 hours regardless of how efficient a leader may be, they can only entertain a certain number of decisions. If time and energies are devoted to internal decisions and relationships then that same time must be subtracted from the external decisions and relationships. It is a basic mathematical equation:

$$\text{FCO Creative Energies} = \text{External relationships/decisions} + \text{Internal relationships/decisions}$$

The left side of the equation is finite for the leader/manager; one person can physically accomplish just so much without harnessing allies—be it from internal or external sources. Where success can be made is by manipulating the right side of the standard equation. External relationships are critical to the health of the network (organization). One can miss these relationships if one focuses only on internal collaboration.¹¹⁵

In essence, what effectively instituting an open, decentralized organization allows is for less time to be devoted to orchestrating internal decisions and more time to focus on the development of the external capabilities. It is generally accepted that operations in a CBRN environment will be slowed as personnel are encumbered by things such as protective equipment and exposure to CBRN effects. Hazards may require abandonment or limited use of contaminated areas and avoidance of planned routes and terrain.¹¹⁶ Yet, the traditional role of FEMA will remain constant—providing federal assistance to state, local, tribal, and certain private non-profit groups. Decentralization, by form and function, when applied properly can allow the FCO more time to discuss strategies with other federal, state, local, tribal, and private sector decisions makers while at the same time having the knowledge that the internal workings of the organization will continue to prosper because the system's design, by its very nature, has the propensity to prosper.

This chapter discussed organizational complexity in CBRN environments and made a strong case for the notion that in disaster response operations the greater the complexity of the event, the greater is the need for organizational decentralization. The origins of organizational history were briefly reviewed, and then the concept of decentralization in regards to both FEMA and the FCO's was examined using hurricane Katrina as the sentinel model. What is evident is when faced with a large, complex disaster situation, FEMA did not account itself well. The complexity of a large CBRN event would provide even greater challenges than hurricane Katrina. Upcoming in Chapter VI, the idea of a more decentralized FEMA organizational structure will be introduced and a strong recommendation made for immediate implementation.

¹¹⁵ Cross and Parker, *Hidden Power of Social Networks*, 27.

¹¹⁶ Joint Chiefs of Staff, *Operations in CBRN Environments*, xi.

V. METHODOLOGY

A. INTRODUCTION

In the fulfillment of one of the main objectives of this research, a survey was conducted of the current Federal Coordinating Officers (FCOs) as of July 2008. The motive was to bridge the theories put forth in this thesis with actual first-hand perceptions from the core group of individuals upon which the theories are predicated. The survey was provided via email or in hard copy to the FCOs and a request to quickly return the surveys was attached. Furthermore, the FCO's surveys were separated based on experience level as measured by time in the position. FCOs assigned for less than one year, for the purposes of this research, were considered to be “newer,” though in the FCO position, time spent assigned is not always indicative of experience level based on the number of disasters to which they have been assigned. FCOs assigned for more than one year were considered to be “seasoned,” again not measuring the number or complexity of previous assignments.

A total of 31 FCOs were surveyed; 18 were seasoned and thirteen were newer. This sample represents 79.5 of the total FCOs assigned to FEMA as of July 2008.

1. Significance of the Sample

Although on the surface having 31 respondents to a survey may not seem impressive, yet the number represented 79.5 percent of the total possible population. These are the individuals who will serve in the capacity of FCO should a CBRN event occur. Having captured and recorded their perspectives is even more pertinent when discussed along the same lines as men who have served as president of the United States. There have been only 43 people who have served in the distinct post of President of the United States. If 79.5 percent of those persons could be somehow surveyed and their perspectives recorded, though the quantitative number may not be great, the qualitative value of the data received would be valuable. The same basic theory applies here. Though the number 31 is small, but because it represents 79.5 percent of the total

population of individuals who will serve as the Presidential appointed FCO should a CBRN event occur, the research value of the data is greatly increased.

2. Survey Instrument and Design

The survey instrument utilized to gather data for the research was developed specifically for the FCOs based on skill-sets and competencies development criteria that were discussed with the director, FCO Operations Office,¹¹⁷ in the spring of 2008. The survey included a checklist,¹¹⁸ rating scale,¹¹⁹ and a few selected open-ended questions that would allow the respondent to elaborate where required or desired. The director approved both the survey content and the issuance of the instrument to the Federal Coordinating Officers representing all ten FEMA regions.

A more elaborate survey instrument was specifically not chosen as it was determined that more FCOs would respond to a more personalized instrument coming from a fellow FCO, than a complicated survey instrument coming from various available web-based applications. The instrument proved user friendly to the respondent, but more difficult to codify the results manually verses a more sophisticated, automated results measurements capability. In future surveys, a commercially available survey product such as Zoomerang¹²⁰ should be considered. This will allow for quicker dissections of the results and will be much less researcher intensive to extract the results.

Quality survey research involves acquiring information about one or more groups of people—perhaps about their characteristic, opinions, attitudes, or previous

¹¹⁷ The current Director of FCO Operations Office is Mr. Ted Monette. Mr. Monette is a veteran FCO and has been tasked with the leadership and mentoring of the FCO Cadre. Mr. Monette has extensive professional experience as an FCO and was the FCO of recording for the response to the attacks at the World Trade Center in New York City on September 11, 2001.

¹¹⁸ “A checklist is a list of behaviors, characteristics, or other entities that a researcher is investigating.” (Definition sourced from Paul Leedy and Jeanne Ornrod, *Practical Research: Planning and Design*, 8th ed. (Upper Saddle River, NJ: Pearson, Merrill, Prentice Hall, 2005), 185.

¹¹⁹ Rating scales were developed by Rensis Likert in the 1930’s to access people’s attitudes. (Definition sourced from Leedy and Ornrod, *Practical Research: Planning and Design*, 185).

¹²⁰ Zoomerang is an on line survey tool available at www.zoomerang.com.

experiences—by asking questions and tabulating the following results.¹²¹ In that vein, this research tool did exactly that by qualifying and quantifying the thoughts, ideas, and concerns of the FCOs as related to CBRN.

3. Survey Implementation

The implementation of the survey was in a phased approach. During phase one, the survey was provided via hard copy to the newer FCOs as a part of their FCO orientation course at FEMA, Headquarters in Washington, D.C. All FCOs are required to attend orientation within the first year of assignment to the FCO cadre. During April 2008, a blank survey was handed to each FCO in attendance. The FCOs were instructed to fill out the survey and return them to the proctor. In the delivery of the survey, the FCOs were told that attribution was optional. They could put their names on the survey or answer anonymously. Only 30.7 percent of the respondents chose to include their names, and of the ones that included their names, the rankings for how well they were prepared to respond seemed to be higher than those who chose to answer anonymously.

This led to a notion of identification bias within the survey itself. In research, bias is any influence, condition, or set of conditions that singly or together distort the data.¹²² Could the results be skewed if the respondent freely chose to include their name? After a careful review of the results, it was determined that even though the general ranking on some critical questions were higher, those higher rankings could be justified by the professional experience and resumes possessed by those who responded and include their names. Those who included their names had prior military nuclear, biological, and chemical (NBC) and hazardous material (HAZMAT) training, which lends itself to a more overall knowledge of CBRN as a discipline. Therefore, it was determined more than conceivably that this select population would, in fact, appropriately rank their knowledge in certain CBRN technical competencies on the higher side of the scale.

¹²¹ Leedy and Ornrod, *Practical Research: Planning and Design*, 183.

¹²² *Ibid.*, 208.

Phase II of the survey implementation was to send the survey via email to the seasoned FCOs. These again were the FCOs who have been employed by FEMA within the FCO cadre for more than one year. The survey was sent out to the cadre beginning April 27, 2008. Understandably the rate of return during the phase II effort was far less than the 100 percent response experienced during phase I. This was mainly due to the sense of urgency inherent in having all the FCOs in phase I present at one place at one time. Even though the percent responding during phase II was 69.2 percent, the distribution of the rankings and responses were representative of that population at large. The FCOs that did not respond were assigned to specific disaster duties throughout the nation and during such assignments time is of the essence, and to devote time to concerns other than Joint Field Office operations detracts from obtaining incident specific objectives.

Rather than petitioning the Director FCO Operations Office to compel the FCOs to respond and risk tainted data from unwilling or preoccupied respondents, the research decision was made to accept the 79.5 percent threshold as representative of the entire population, and to continue with the assessment phase of the survey process. This decision was also supported by the general composition of the FCO cadre. If a population is markedly heterogeneous then a larger sample is normally needed, when the population is fairly homogenous then a smaller sample is appropriate.¹²³ The seasoned FCOs have very similar FEMA experiences and therefore seemed to have very similar responses despite their professional backgrounds prior to joining the agency.

4. Analysis

The analysis phase of the survey process involved reviewing the returned questionnaires and recording the findings. This included the averages, mean, mode, and other statistical methods to codify the data in measurable and quantifiable research results in which credible inferences can be drawn and applied toward the alteration and development of new policies and procedures related to the FCO Cadre and CBRN

¹²³ Leedy and Ornrod, *Practical Research: Planning and Design*, 207.

readiness. Both phases of the research were done separately and analyzed separately. Some linkage and comparison are established from the analysis in phase II from the analysis identified in phase I.

B. SURVEY RESULTS

The results of the survey codify, aggregates, and makes academically sound determinations based on the input received and reviewed. The questions asked were designed to elicit both open- and closed-ended responses across a wide range of topics that were determined to be important to obtain a picture as to what is the condition of the FCO cadre in relationship to CBRN. By design, survey research captures a fleeting moment in time, much as a camera takes a single-framed photograph of an on-going activity, and by drawing conclusions from one transitory collection of data one may extrapolate about the state of affairs over a longer period of time.¹²⁴ This is important to understand as the data captured herein can be used as the foundation for a change in the way the FCO cadre has approached CBRN response and recovery since the inception of the cadre in 1999. Based on the results herein, the FCO CBRN Tiered Qualification Plan¹²⁵ can be further revised and changed to reflect the realities contained herein.

A key incentive to inspire respondents to invest time and energy to both fill-out and return the questionnaire was to provide a summary of the results to the responder.¹²⁶ In keeping with that key incentive to get respondents to return their surveys, the results of the survey was presented to key FEMA leadership and members of the FCO cadre during the fall 2008 Semi-Annual FCO Retreat in Lansdowne, Virginia. The survey was well-received and some eyes were opened as to the nature of some of the responses.

This survey represents the first time the members of the FCO cadre have been provided the opportunity to formally participate in the development of a potential design change in the FCO cadre's approach to the fluid demands of disaster response and

¹²⁴ Leedy and Ornrod, *Practical Research: Planning and Design*, 184.

¹²⁵ The FCO WMD/CBRN Tiered Qualification Plan when fully implemented will assign FCOs by type and level based on skill-competency achieved over time.

¹²⁶ Leedy and Ornrod, *Practical Research: Planning and Design*, 194.

recovery. Although not every FCO did respond to the survey due to operational commitments, they all were afforded the opportunity to respond. Of note, the most recently hired FCOs, of which there were two, since this survey was conducted, are not represented herein as the cut-off time for data collecting had expired prior to them being hired. As an aside, both of the new hires come from similar backgrounds of other responding newer FCOs, so the omission of the input from the two newer individuals is not seen as a significant deterrent to the acquisition of quality inferences.






In this thesis, the results received from the newer FCOs will be presented first followed by the results received from the seasoned FCOs. The purpose of each question will be defined and then analyzed. At the end of the chapter a synthesis of the input from the newer and seasoned FCOs will be presented. This will lead to a final summary of findings section within this thesis.

C. PHASE I (SURVEY OF NEWER FCOS)

1. Question 1

Question: How important to the success of an FCO is knowledge in the below areas as it relates to a CBRNE Disaster (Table 1)?

Table 1. Importance of Knowledge

AREA	1	2	3	4	5	Mean N=13
Media Management						4.8
Legal Statues and Authorities						4.3
Interoperability of Federal Agencies						4.3
State and Local response procedures						4.3
Federal CBRN response teams, capabilities and structure						4.5

a. Purpose

The purpose of this question was to assess the relative importance that the FCOs placed on knowledge in specific CBRN competencies. The competencies were selected based on collaboration with the Director FCO Operations Office and were selected because of the cross-section representation of total knowledge and the decision that having superior knowledge in the five areas described would be a great predictor of success for an FCO assigned to respond to a CBRN event. It is recognized that other competency indicators could have been chosen, but as a snapshot of relative skill sets, the five depicted serve a valuable purpose.

b. Analysis

It was interesting to note that every respondent rated every competency within this question either 3, 4, or 5, denoting that the FCOs felt all listed competencies were important to their success in a CBRN environment, and of the competencies listed the management of the media was deemed to be the most important. This suggests that the FCOs do have an understanding of key competencies within a CBRN environment. If the responses were had been more in the 2 or less range that would have been indicative of the FCOs not believing the listed competencies were important to them and their responsibilities during CBRN events.

2. Question 2

Question: On a scale of 1-5, with 5 being very competent, rate your current competency level in the items listed below as it relates to a CBRNE environment (Table 2)?

Table 2. Current Competency (Self-Rated)

Area	1	2	3	4	5	Mean N=13
Media Management						3.6
Legal Statues and Authorities						2.8
Interoperability of Federal Agencies						2.9
State and Local response procedures						3.4
Federal CBRN response teams, capabilities and structure						3.3

a. Purpose

The purpose of this question was to assess the perceived knowledge that the FCOs thought that they possessed in the same specific CBRN competencies asked in question one. Their primary research goal was to have the FCO do a self-assessment of their own attributes and then compare and contrast the results from question one and question two to ascertain if a delta exists between what the FCOs think is important for success in a CBRN environment and what attributes they currently possess. From the comparisons and contrast of the aggregate findings in both questions, an inference could be made that additional attention to the measured attributes would be beneficial. And since the gap between desired knowledge and derived knowledge is being defined by the FCO themselves, the validity of the gap contains an even greater research value.

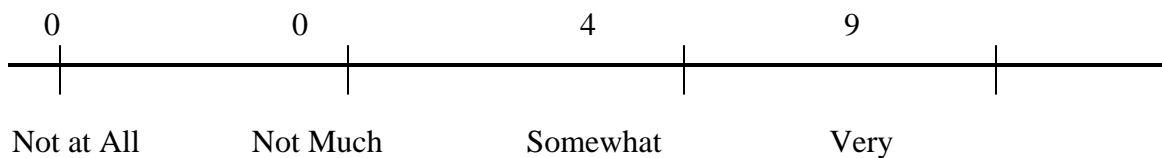
b. Analysis

The results of this question demonstrated the lack of competency credibility, when gauging the competencies listed, the FCOs felt they possessed. It was surprising to note that not one of the competencies warranted a 4 or 5 average score; all ranked 3 or below, with both legal statutes and authorities and interoperability of federal agencies ranking in the score of 2. This data reveals, by their own admission, a clear deficit in the perceived readiness of the FCOs to manage operations where the listed 5 competencies are concerned.

3. Question 3

Question: How important is having technical knowledge of CBRN agents and impacts to an FCO assigned to manage in such an environment (Table 3)?

Table 3. Importance of Technical Knowledge



a. Purpose

The purpose of this question was to determine the value that FCOs placed on having technical competencies. The running debate within the emergency response discipline has been whether those who manage disaster should have technical knowledge or just have the ability to access technical knowledge from internal or reach-back sources should that knowledge be required. Technical knowledge includes a variety of things, such as how to operate CBRN instrumentation for certain surveys, how to interpret contamination plume projection products, and how to conduct decontamination operations. On one side of the spectrum, the argument supports advanced technical knowledge as a precursor for better tactical and strategic performance. On the other end,

technical knowledge is seen as a competency that should be reserved for the technician, which allows the leaders to focus on the broader objectives and leadership requirements. The task was to quantify where on this spectrum the FCOs believed an FCO should be, and from that evidence determine how much emphasis future FCO and FEMA training and exercise opportunities should be devoted toward improving technical competencies for FCOs.

b. Analysis

The measured results from this question seem to run counter-intuitive from what the common literature suggest. The majority of literature would suggest that senior leaders do not need to possess great technical knowledge but should count on others to provide that insight when and as required. The suggestion is that senior leaders only need to know where to locate the expert to be able to answer whatever technical question the leader has at that moment. What the results of this question reveal is that the FCOs want to know more about the technical aspects of CBRN. They felt that having this knowledge and not having to just depend on the technicians will make the FCO much better prepared to manage his own leadership requirements.

4. Open-Ended Questions

In an effort to expand the input and to gain a personal perspective that was not limited to the questions asked, a couple of open-end questions were used to determine if key words or common themes would emerge in the responses. Open-ended questions are questions that require more than a simple yes or no answer. They allow people to elaborate and this can create and grow a conversation.¹²⁷

A key open-end question presented was: **How is responding to a CBRN event different than responding to a “normal” or “traditional” disaster declaration?** As is evident by the use of the words “normal” or “traditional” it was understood that those key

¹²⁷ Dan F. Pooley, “Ask Open Ended Questions,” Evan Carmichael, <http://www.evancarmichael.com/marketing/80/ask-open-ended-questions.html> (accessed on September 21, 2008).

words would not have universal meaning, and that some respondents may label an event normal when that same event may be not carry the same nomenclature in the mind of another individual. Yet, even with this noted ambiguity, the question was important to the body of this research because it allowed for a free expression of comments vice the structured rank order of the previous questions listed.

a. Analysis

As expected the results provided from the open-ended question was numerous and various. Below (Table 4) is an example of some of the key word and phrased responses provided

Table 4. Frequency of Key Words and Phrases

Key Word (s) or phrase	frequency
International event	1
Long-term recovery	2
Every government agency will be involved	1
The speed of the event	2
Exceed local capacities	1
Public fear and concern	4
Decontamination requirements	2
Heavy political oversight	1
Need for specialized emergency workers	1
Need to relocate	1
Staff protection issues	1
Staff reluctant to deploy	1

The most striking research observation from reviewing the above list is the fact that most of the responses deal with external verses internal concerns. The FCOs did not answer with items that related to their competencies, knowledge, skills, or abilities,

but rather they responded with items that describe the external environment that they would have to manage. **Public fear and concern** was the most used term followed by **long-term recovery, the speed of the event** and **decontamination requirements**.






In designing the question, the term environment was purposely omitted because the thought was that the word may lead the FCO to think externally verses internally. It seems that even though great lengths were taken to avoid such a focus, the FCOs still moved toward that direction. The research thus suggests that when asked a question even without specific guidance to respond based on external or internal variables, the FCOs seem to gravitate toward a description of the external items first.

D. PHASE II (SURVEY OF SEASONED FCOS)

1. Question 1

Question: How important to the success of an FCO is knowledge in the below areas as it relates to a CBRNE Disaster (Table 5)?

Table 5. Success and Knowledge

AREA	1	2	3	4	5	Mean N=18
Media Management						4.5
Legal Statutes and Authorities						4.5
Interoperability of Federal Agencies						4.625
State and Local response procedures						4.25
Federal CBRNE response teams, capabilities and structure						4.0






a. Purpose

The purpose of this question was to assess the relative importance the FCOs placed on knowledge in specific CBNE competencies. The competencies were selected based on collaboration with the Director FCO Operations Office. In addition, the competencies were selected because of the cross-section representation of total knowledge, and the decision that having superior knowledge in the five areas described would be a great predictor of success for an FCO assigned to respond to a CBRN event. It is recognized that other competency indicators could have been chosen, but as a snapshot of relative skill sets, the five depicted serve a valuable purpose.

b. Analysis

The seasoned, more experienced FCOs listed knowledge in interoperability as the highest valued area of concern. The knowledge of other federal teams ranked the lowest; a factor contributing to this outcome is that the seasoned FCOs have all been appointed to lead several presidentially declared disasters and have first-hand knowledge of the complexities in even minor flooding events. This adds the uncertainty and the even more complex nature of a CBRN environment, and highlights even more the need to act in a cooperative manner across the federal, state, and local partnerships.

Table 6. Current Competency Related to CBRNE (Self-Rated)

	1	2	3	4	5	Mean N=18
Media Management						3.625
Legal Statutes and Authorities						2.125
Interoperability of Federal Agencies						2.125
State and Local response procedures						2.375
Federal CBRNE response teams, capabilities and structure						2.0

2. Question 2

Question: On a scale of 1-5, with 5 being very competent, rate your current competency level in the items listed below as it relates to a CBRNE environment (Table 6)?

a. Purpose

The purpose of this question was to assess the perceived knowledge that the FCOs thought that they possessed in the same specific CBNE competencies asked in question one. The primary research goal was to have the seasoned, experienced FCOs do a self- assessment of their own attributes and then compare and contrast the results from questions one and two to ascertain if a delta exists between what the FCOs think is important for success in a CBRNE environment and what attributes they currently possess. From the comparisons and contrast of the aggregate findings in both questions, an inference could be made that additional attention to the measured attributes would be beneficial. And since the gap between desired knowledge and derived knowledge is being defined by the FCO themselves, the validity of the gap contains an even greater research value.

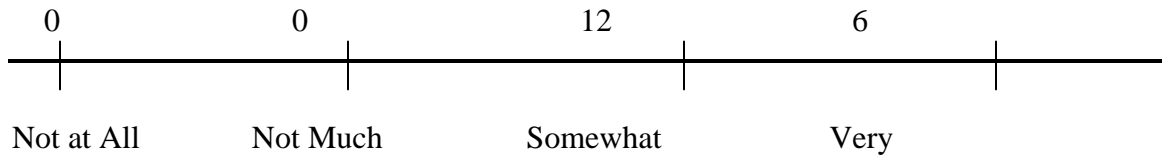
b. Analysis

As with the newer FCOs' responses, the results of this question demonstrated the lack of competency credibility; when gauging the competencies listed, the FCOs felt they possessed. It was again surprising to note that not one of the competencies warranted a four or five average score; all ranked below three, with the only item to rank in the threes: the media. This is quite understandable since all of the seasoned FCOs have had to do media interviews while being assigned to their various disasters. This data again reveals, by their own admission, a clear deficit in the perceived readiness of even the seasoned FCOs to manage CBRN operations where the listed five competencies are concerned.

3. Seasoned FCOs

Question: How important is having technical knowledge of CBRN agents and impacts to an FCO assigned to manage in such an environment (Table 7)?

Table 7. Importance of Technical Knowledge



a. Purpose

The purpose of this question was to determine the value that FCOs placed on having technical competencies. The running debate within the emergency response discipline has been whether those who manage disasters should have technical knowledge or just have the ability to access technical knowledge from internal or reach-back sources should that knowledge be required. On one side of the spectrum, the argument supports advanced technical knowledge as a precursor for better tactical and strategic performance. On the other end, technical knowledge is seen as a competency that should be reserved for the technician which allows the leaders to focus on the broader objectives and leadership requirements. The task at hand was to quantify where on this spectrum the FCOs believed an FCO should be, and from that evidence, determine how much emphasis future FCO and FEMA training and exercise opportunities should be devoted toward improving technical competencies for FCOs.

b. Analysis

As with the newer FCOs, the measured results from this question seem to run counter-intuitive from what the common literature suggests. As stated earlier, the majority of literature suggests that senior leaders do not need to possess great technical knowledge but count on others to provide that insight when and as required. Having 100 percent of the seasoned FCOs who returned their surveys annotate that technical expertise

in CBRN is either somewhat or very important gives great cause for concern when looking at the current way the FCOs are being trained. These results suggest a disconnect between the prevailing thought as detailed in the literature and what the actual action officers are thinking.

4. Seasoned FCOs

Question: List of key word(s) or phrase and number of times offered by different respondent (Table 8).

Table 8. Key Words and Frequency

Key Word (s) or phrase	frequency
FEMA expertise is limited	3
Long-term recovery/contamination concerns	4
Unknown hazard	1
Political oversight	5
Exceed local capacities	1
Public fear and hysteria	6
Decontamination requirements/pressures	4
Normal rules do not apply	2
National focus immediately	1
Safe zones	1
“Worried-well” concern	1
Several layers of complexity tied to disaster	2

The salient research observation gleaned from reviewing the above responses was how as was the case with the new FCOs, the seasoned FCOs also took an external

approach and listed responses that are externally measured verses any responses dealing with introspection and looking at any qualities that an FCO might require. In addition, many of the responses to the open-ended question were the same with the newer FCOs and the seasoned FCOs. For instance, the public fear and hysteria theme was again noted, as was the mention of contamination. The most glaring difference was that the seasoned FCOs noted political oversight as a concern, Since many of the seasoned FCOs have been involved in several major disasters their understanding of the political implications of disaster response in a CBRN environment was much keener than the newer FCOs—as to be expected.

E. SUMMARY OF FINDINGS REVIEW OF THE COLLECTED EVIDENCE OVERVIEW

1. Findings

The evidence, in aggregate, suggests that it is difficult at best for any select group of individuals, in this case the FCOs, to possess all of the competencies necessary to manage events in a CBRN environment. An examination of the data collected in this limited and focused survey reveals the following key insights:

- *Finding 1:* There was not much of a difference in the responses of the newer FCOs and the seasoned FCOs on the questions of what they thought should be the competencies of an FCO with regards to CBRN.
- *Finding 2:* Both survey groups indicated that there is a distinct gap between the competencies they perceive are necessary to manage in a CBRN environment and the competencies they currently possess.
- *Finding 3:* Both survey groups indicated that the ability (or inability) to manage the media would be a very challenging aspect of a CBRN response.
- *Finding 4:* Both survey groups saw having technical expertise as an important factor for FCOs in CBRN events.
- *Finding 5:* The current system in place have left FCOs unprepared for a CBRN event.
- *Finding 6:* Both survey groups ranked public fear and hysteria as major concerns.

2. Implication of the Findings

Not only will additional training, technical assistance, and expertise be required, but also the institutionalization of a more decentralized organizational architecture will be needed to ensure critical decisions in a CBRN event are made at the lowest level possible, or better stated, the level closest to the situation, thereby freeing the FCOs to concentrate on the more strategic decisions. By reviewing the responses to the variety of questions, the common theme that surfaced was that the FCOs did not respond with a high degree of confidence as to their current state of preparedness to respond to events involving CBRN materials. This fact, in turn, places FEMA in a situation of having key leaders not being fully prepared for a possible disaster scenario. In addition, a disaster scenario that could have catastrophic implications for the American public if the response and recovery efforts are not done in a competent manner.

F. CONCLUSION

This survey represented the first time the FCO cadre has been asked to respond to questions concerning their competencies in CBRN events. What was telling was the similarity in the responses from both the new and the seasoned FCO groups. Their responses indicated their understanding of the complexities of a CBRN response and an understanding that their current level of preparedness to lead a response is not adequate, and that they are aware of this situation. They concur that more training in CBRN competencies is needed. Table 1, of Chapter VI, lists the FCO CBRN-E Core Competencies, as listed in the FCO CBRN-E Tiered Qualification Plan.

The FCOs did not identify the need for organizational decentralization or the requirement for an additional team dedicated to CBRN, nor was they asked those questions specifically. The survey was geared toward individual competency verses organizational competency. In future research FEMA's organizational competency should be accessed from the FCO perspective. The review of the literature, in particular, gave rise to the notion of increased decentralization as being a more effective means to provide disaster assistance in CBRN catastrophic events. The next chapter takes the

FCOs' surveys and combines them with the research of FEMA and CBRN to produce three key recommendations that, if adopted, will ensure that the FCOs are better prepared to manage operations in a CBRN environment.

VI. RECOMMENDATIONS

A. INTRODUCTION

This chapter presents a series of three distinct solutions that, if adopted, would not only increase the effectiveness of the Federal Coordinating Officer (FCO) cadre in CBRN environments, but would also directly aid in the readiness posture of FEMA and the federal government as a whole to support the state and locals in such environments. The National Response Framework is built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities across the nation.¹²⁸ This set of recommendations goes further and seeks to not only accomplish the mandate inherent in the NRF, but also to establish and align a new set processes, which are FCO-centric, and ensuring that the nation is better served by the federal government should a CBRN event occur.

The recommendations are designed to address three aspects of the FCO function as a “system.” The first is the internal system,¹²⁹ or how the FCO can become better prepared to manage in CBRN environments through direct personal concentrated actions. The second highlights the external system¹³⁰ or how the FCO could be placed in a more efficient response system and organization to be directly responsive to the needs of a chaotic, hectic population affected by a CBRN attack. The third and final recommendation is geared toward indentifying a way to provide the FCO with a team of dedicated staff members to first consolidate CBRN competencies and then to act as a

¹²⁸ DHS, *National Response Framework*, 1.

¹²⁹ The internal goal is defined as the business culture, operating environment, and workforce within FCO Operations. Extracted definition from the Office of Federal Coordinating Officer *Operations Strategic Plan 2008-2013*, October 2008, 2.

¹³⁰ The external goals address FCO Operations’ interaction with stakeholders from across FEMA, DHS, the federal government, and the emergency management community, with an emphasis on cooperation and coordination. . Extracted definition from the Office of Federal Coordinating Officer *Operations Strategic Plan 2008-2013*, 2.

catalyst to dispense the knowledge and provide more decisive coordination of all response systems and entities that will be present if or when a CBRN attack occurs in the United States.

1. Three Key Recommendations

Based on the findings from this research three recommendations are presented. These recommendations are designed to compensate for the lack of FCO CBRN training currently being provided, the slow nature of decisions due to a linear organizational structure, and the lack of a dedicate team of CBRN experts to support the FCO.

The recommendations are as follows:

1. *Full implementation of the Draft Federal Coordinating Officer Tiered Qualifications Plan (TQP).* This move will begin to eliminate the noted gap between the skill-sets the FCOs think are important to CBRN response and recovery, as detailed in the survey herein, and the skill-sets and competencies the FCOs now possess. The TQP is designed to provide all the FCOs with a basic level of CBRN expertise and to ensure a handful of FCOs have a greater level of CBRN expertise and have developed relationships with others in the CBRN community.
2. *Decentralization of command and control.* Even with the TQP fully implemented, a fundamental change in the organizational structure and a re-examination of the way complex disasters, as a CBRN would be, needs to be addressed. The rigidity of the current linear command and control, top-down, management structure needs an overhaul and to be replaced with a more trust-centric, decentralized management configuration that allows for decisions to be made more quickly and more effectively by the personnel that are nearest to the situation.
3. *The establishment of an Incident Management Assistance Team (IMAT)-CBRN.* Other agencies have come to the conclusion that a CBRN event is unique enough to require a different set of response principles and a dedicate group of professionals to manage operations. The DoD comes to

mind with its JTF-CS¹³¹ and the WMD-CST¹³² teams. Both concepts have evolved over time and have given the DoD a perspective on CBRN operations that is unique among other agencies. The DoD has a support role in the conduct of CBRN operations in their role of defense support to civil authorities (DSCA). FEMA's role in a CBRN is major with coordinated management responsibilities with the FBI, other law enforcement entities, and state and local governments. With such a high profile role in CBRN response, FEMA needs to do more to ensure the leadership and the agency as a whole are ready to live up to what is expected by the American public.

The implementation of either one of the three items above will enhance the capability of FEMA and the FCOs to management the complexities of a CBRN event. Adoption of all three items would demonstrate to the Congress and the response community a true dedication to CBRN readiness and to establish FEMA as a forward-looking, forward-thinking agency that is ready to meet new challenges with innovative solutions.

B. RECOMMENDATION 1

Recommendation 1: Adopt and implement the Federal Emergency Management Agency, Director, Federal Coordinating Officer Operations, Federal Coordinating Officer, Chemical, Biological, Radiological, Nuclear, and High-Explosive (CBRNE) Tiered Qualifications Plan (TQP)-dated April 2008- as soon as operationally feasible.

¹³¹ Joint Task Force Civil Support plans and integrates DoD support to the designated primary federal agency for domestic chemical, biological, radiological, nuclear and high yield explosive consequence management operations. (Definition of Joint Task Force Civil Support from the Joint Task Force Civil Support (JTF-CS), "Welcome to Joint Task Force Civil Support <http://www.jtfcs.northcom.mil> [accessed November 10, 2008])

¹³² The WMD civil support teams were established to deploy rapidly to assist a local incident commander in determining the nature and extent of an attack or incident; provide expert technical advice on WMD response operations; and help identify and support the arrival of follow-on state and federal military response assets. They are joint units and, as such, can consist of both Army National Guard and Air National Guard personnel, with some of these units commanded by Air National Guard lieutenant colonels. (Global Security, Weapons of Mass Destruction Civil Support Teams, <http://www.globalsecurity.org/military/agency/army/wmd-cst.htm> [accessed November 10, 2008]).

1. History of the TQP

The FCO cadre is the one cadre in FEMA that will be present at every disaster declared by the President of the United States. Just as in the ICS terminology, at every incident, the command function which sets objectives and priorities for the event is always present and the rest of the command and general staff may be resourced depending on the situation.¹³³ If the President signs a disaster declaration the FCO will assigned.

The FCOs are trained in the operational aspects of various types of disaster scenarios from hurricanes to earthquakes and they also have ample, proven experience in those environments. As has been detailed in this thesis, a CBRN event is unique requiring more and different leadership competencies for the FCO to be adroit at negotiating the eventual pitfalls. Section 209 of the Post-Katrina Emergency Management Reform Act (PKEMRA) requires federal coordinating officers within areas affected by a major disaster or emergency to serve as a primary points of contact for and provide situational awareness to the Secretary of the Department of Homeland Security.¹³⁴ To be able to satisfy this mandate the FCOs will need to be well-versed in the intricacies of CBRN and the environment produced by CBRN affects. The Draft TQP was first initiated in calendar year 2005 (prior to PKEMRA, of course) but the events of hurricane Katrina sidetracked the draft's momentum. The initiative was resurrected in 2007 with the directions of PKEMRA in mind; the draft TQP was updated and adjusted for the fluidity of the changes in the CBRN discipline, and a new draft TQP is under consideration as of the date of this writing.

2. The Purpose of the TQP

The purpose of the Federal Coordinating Officer CBRN-E Tiered Qualification Plan is to develop and implement a systematic procedure to ensure the Federal

¹³³ National Response Team, *Incident Command System /Unified Command (ICS/UC) Technical Assistance Document*, 23, [http://www.nrt.org/Production/NRT/NRTWeb.nsf/AllAttachmentsByTitle/SA-52ICSUCTA/\\$File/ICSUCTA.pdf?OpenElement](http://www.nrt.org/Production/NRT/NRTWeb.nsf/AllAttachmentsByTitle/SA-52ICSUCTA/$File/ICSUCTA.pdf?OpenElement) (accessed November 11, 2008).

¹³⁴ Congress, Post-Katrina Emergency Management Reform Act, section 209.

Coordinating Officer (FCO) cadre is equipped with the requisite core-competencies and skill-sets to manage response and recovery operations as a result of threats or actual events involving chemical, biological, radiological, nuclear, and high explosives (CBRN-E) materials/agents.¹³⁵ The draft TQP is the only document in FEMA that addresses CBRN from the FCO perspective and details the steps to ensure the FCO cadre obtains the requisite leadership and technical skills to be effective in their assignments. The document was developed to provide a tiered approach to getting and keeping the FCOs ready to operate successfully in CBRN-E events, and is the first focused plan of its type that highlights one set of possible disaster environments and treats the responding actions uniquely than other more common disaster events.

3. The Main Tenants of the TQP

The TQP is predicated on three pillars that help to form the foundation of the movement toward a FCO cadre that is truly in a position to deal with a CBRN event.

The three pillars are listed below:

- All FCOs will have a working knowledge of the managerial challenges likely to be present at a CBRN-E event and will be trained to the Tier III CBRN-E Basic Level. The cadre will receive awareness level training on a periodic basis consistent with the threat challenges. The training will be basic yet comprehensive. It will reflect the most current doctrine and information available and it will be of a nature as to inspire the FCOs to seek independent learning opportunities to further their level of expertise.¹³⁶
- Certain FCOs will be trained to the Tier II CBRN-E Advanced Level. The FCOs designed as “CBRN-E Advanced” will receive advance training beyond the awareness level and may attend in-resident courses to have interactions with other professionals in the federal, state, and local emergency management community. The training will be current, pertinent, and flexible to ensure the FCOs remain at the highest state of

¹³⁵ Federal Coordinating Officer Operations, FEMA, “Federal Coordinating Officer CBRN-E Tiered Qualifications Plan (TQP),” (draft developmental document version 5, FEMA, Washington, D.C., April 28, 2008), 3.

¹³⁶ FEMA, “Federal Coordinating Officer CBRN-E Tiered Qualifications Plan,” 4.

operational readiness consistent with the evolving threat challenges, and will include federal, state, local, tribal, and private industry perspectives.¹³⁷

- Possible Tier I CBRN-E designation is reserved for future development as required.¹³⁸The debate over a Tier I designation is still undecided. Terms such as “master” and “expert” levels have been discussed but found to connote a level of utility that at this moment the FCO cadre is unwilling to commit.¹³⁹

4. List of FCO CBRN-E Core Competencies to be Developed

The table below lists the core competencies that have been determined to be predictive of an FCO having success at managing the federal response and recovery in a CBRN environment. The survey presented in the research put forth in Chapter IV of this thesis utilized these six competencies as the vector points (see Table 9). The table is not meant to be all inclusive, but to serve as a baseline for further development and program review.

¹³⁷ FEMA, “Federal Coordinating Officer CBRN-E Tiered Qualifications Plan,” 4.

¹³⁸ FEMA, “Federal Coordinating Officer CBRN-E Tiered Qualifications Plan,” 5.

¹³⁹ Ted Monette, personal communication May 4, 2008.

Table 9. List of FCO CBRN-E Core Competencies ¹⁴⁰

CBRN-E Core Competencies – <i>above and beyond current FCO training</i>
(a) Understanding of the effects and hazards associated with a CBRN-E event
(b) Ability to manage FEMA roles and responsibilities in concert with federal, state, and local legislation, directives, regulations, and instructions
(c) Knowledge of the salient coordination and managerial challenges uniquely present in a CBRN-E environment
(d) Knowledge of the unified command structure and applying the principles of NIMS and the NRF in a CBRN-E event
(e) Understanding what specific products to request and how to utilize the products produced for critical decision making
(f) Mastery of the operational and political relationship with the PFO and other agency leads operating in a CBRN-E event

¹⁴⁰ FEMA, “Federal Coordinating Officer CBRN-E Tiered Qualifications Plan,” 8.

The planned protocol is to have the FCOs attend training courses and participate in various tiers of CBRN exercises in order to develop the above competencies and to remain current or become more proficient. The TQP contains a listing of CBRN specific courses that addresses each competency. Each course is reviewed based on the listed course objectives to determine if the course objectives coincide with the competencies listed in Table 9. Once it is determined there is a match between the core competencies and the course objectives, the course is added to the training plan and the designated FCO is provided the opportunity to attend. This will be an on-going process as it is anticipated that both the competencies listed and the courses being offered will evolve due to time and operational necessity.

5. Limitations to Implementation

There remain two very real obstacles to the full implementation of the TQP that have their roots firmly embedded in the robust mission of FEMA. As a result of the Post-Katrina Act, FEMA is the DHS component charged with leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.¹⁴¹ With such wide-ranging responsibilities and a limited full-time staff, FEMA is forced to budget its resources to include the assignment of FCOs to what could be viewed as non-essential responsibilities because events such as CBRN, though are seen as catastrophic, are not common place. Therefore, in reference to the TQP, both the agency's operational tempo and the commitment to execute are both challenged by the rigors of everyday requirements.

6. Operational Tempo

The operational tempo for the FCO cadre over the past few years have been very active. The FCOs are no longer only being deployed as the lead federal manager pursuant to a presidential disaster declaration, but they are now also being deployed in support roles on larger events. For instance when hurricane Ike rolled across Texas and

¹⁴¹ GAO, *Observations on DHS's Preparedness for Catastrophic Disasters*, 7.

Louisiana in the summer of 2008, over eighteen members of the FCO cadre was deployed in those two states.¹⁴² The FCOs were assigned duties such as operations section chief, city and county liaisons officer, and area field office manager.¹⁴³ In these capacities the FCOs are being utilized as special project officers and troubleshooters for hot spots during a disaster. By using the limited FCO resources in such a strategy it does not provide adequate time for the members to be assigned to other pressing functions and assignments such as CBRN. This is why the tough decision of resource allocation is so important, and why the FCOs ability to manage disasters in a CBRN environment should be a key factor in making such decisions. The consequences of the FCOs not being ready and an attack occurring is very high on the negative scale.

7. The Commitment to CBRN

For the TQP to be successful a conscience decision must be made at the highest levels of FEMA to commit the personnel, time, and resources toward ensuring the FCOs and therefore the agency is prepared to manage in CBRN events. This decision has not been forcefully made. The tyranny of the urgent still guides FEMA's business cycle to include the commitment of resources. As an operational imperative, FEMA tends to react to larger scale disasters by sending all of its available forces to engage the events in that particular state. If the TQP is to be effective and the CBRN posture of the FCO cadre elevated then a more concrete commitment to allow the FCOs time to develop and nurture the competencies listed in Table 10 will have to be made.

¹⁴² Kenneth Clark, "Hurricane Ike After-Action Report," (presentation given at the 14th FCO Retreat, Lansdowne, VA, November 3-7, 2008).

¹⁴³ Clark, "Hurricane Ike After-Action Report."

C. RECOMMENDATION 2

Develop a more decentralized organizational structure for CBRN.

1. The Need for a More Decentralized CBRN Response Management Structure

To make decisions and influence the flow of actions at the lowest organizational level possible, a new disaster response mindset is required to marry-up with the structure change recommended herein. The mind-set suggested is similar to the concept of a mega-community. A mega-community as defined for this discussion is a collaborative socioeconomic environment in which business, government, and civil society interact according to their common interest, while maintaining their unique priorities.¹⁴⁴ It is further recommended that the FCO cadre is uniquely positioned to facilitate such a sea-change.

As discussed in Chapter IV of this thesis, the CBRN emergency management, disaster response environment is not a static milieu where decisions are effectively made in a customary linear organizational construct. These types of complexities (occurrences like CBRN responses) are really at the heart of challenges faced by leaders today, and dealing with complexity on this scale introduces new challenges.¹⁴⁵ And of course, new challenges almost always demand a new way to look at the existing landscape. In this case, a more critical investigation into the way decisions are typically made in disaster situations is applied to a CBRN event. What is required are leaders who know how to identify the vital interest they share with others, who are prepared to seek benefits from which all can gain, and who are committed to addressing these issues.¹⁴⁶

¹⁴⁴ Reginald Van Lee, et al., *Megacommunities: How Leaders of Government, Business, and Non-Profits can Tackle Today's Global Challenges Together* (New York: Palgrave Macmillan, 2008), 232.

¹⁴⁵ Ibid., 10.

¹⁴⁶ Ibid., 16.

2. Discrepancies in FCO CBRN Competencies

A quick look at the survey results reveals that the FCOs understand that there are many aspects of a CBRN environment that they, as a cadre, simply do not have a great level of comfort in managing. They understand the issues are salient, yet at present they are not in a position where they could say they are confident. If one does not have the requisite capacity to handle an issue, the best approach is to seek out those whom they can leverage to forge a more complete partnership to be able to, as a team, complete the task. The concept of mega-communities is an idea that will help leaders (FCOs) cope with the challenges created by the global dynamic environment (of which the fear of a CBRN attack is key), in part by transcending some traditional ways of thinking.¹⁴⁷ The need to divest the decision making process and allow decisions to be optimized at the level nearest to the event is a key tenant of this new way of thinking. In the past, the focus has been on maximization not optimization. Maximizing refers to a primary focus on the immediate benefits to, in this case, the leaders/FCOs' own domain while optimizing refers to the recognition and actualization of benefits to the larger system as a whole.¹⁴⁸ In this new way of thinking the focus of attention is no longer just the Joint Field Office (JFO) but the entirety of the affected area with decisions being made by federal, state, local, tribal, and other stakeholders in a collaborative fashion at every level where the decision is required to be made.

3. Assessing the GAP Analysis as a Mega-Community Tool for Greater Decentralization

The current FEMA GAP Analysis as defined below is an example of how some quasi-mega-community principles can be operationalized:

Under a Gap Analysis Initiative rolled out this Spring (2007), a Gap Analysis Tool was developed in coordination with the State of New York Emergency Management Office/New York City Office of Emergency Management and has been implemented to provide FEMA and its partners at both the State and local levels in the hurricane prone regions of the

¹⁴⁷ Van Lee et al., *Megacommunities*, 18.

¹⁴⁸ *Ibid.*, 82.

country a snapshot of asset gaps at the local, State and National levels. Seven critical areas are incorporated for review in the tool: debris removal, commodity distribution, evacuation, sheltering, interim housing, medical needs, and fuel capacity along evacuation routes. The FEMA regions and corresponding hurricane prone states/territories and local communities have been conducting meetings to discuss capabilities and gaps for responding to hurricane disasters.¹⁴⁹

This same approach applied to CBRN and using CBRN metrics can provide the initial foundation for rapport building and understanding the value of optimizing the resources of all stakeholders that will be required to jointly respond to any substantive attack on the United States.

4. The Quality of Field-Based Decision Making in CBRN Environments

In a CBRN environment, critical decisions as discussed herein should not be at the purview of Washington, D.C. or even the Joint Field Office, but those decisions should be made by the collaborative leadership who are in direct contact with the event. This process will unleash a cascade of decisions that can be made quickly and in the best interest of the affected population. The stakeholder decentralized conglomerate making the decision will have access to the same information as the JFO and the policy makers in Washington, D.C., only now as this new thinking is applied, they will also have the authority to move assets and allocate resources.

5. Development of Decision Clusters to Interface with the FCO and JFO

The National Strategy for Homeland Security states that the federal government will work to create an environment in which state, local, and private entities can best protect the infrastructure they control.¹⁵⁰ This has been and is being accomplished with the insertion of the Protective Security Advisors (PSA), who are now embedded in every state. What is suggested in this thesis is to take this same approach but one step further and develop a mechanism for the same level of state and local control exerted over the

¹⁴⁹ Federal Emergency Management Agency, "FEMA Disaster Response Assets and Enhancements," Media Release Archive, <http://www.fema.gov/media/archives/2007/061207.shtm> (accessed October 3, 2008).

¹⁵⁰ White House, *National Strategy for Homeland Security*, 69.

infrastructure to be applied to the protection of the jurisdiction's population. While the government's collaborative arrangements have proven adequate for a variety of natural disasters, the threat of terrorist attacks using chemical, biological, radiological, or nuclear weapons with potentially catastrophic consequences demands new approaches, a focused strategy, and a new organization.¹⁵¹

6. Design of a Decision Cluster

It is suggested from the research herein that a decision cluster would be developed at the local level and designed similar to the military forward observer concept. In the military, a forward observer operates with front line troops and is trained to adjust ground or naval gunfire and pass back battlefield information. In the absence of a forward air controller, the observer may control close air support strikes.¹⁵²

The decision clusters would be a group of individuals at the local level nearest to the disaster situation involving CBRN who would examine the situation and call to the JFO and state emergency operations center (EOC) for resources to meet the requirements of that situation. These resources would be above the capability of the incident command to bring to bear. Once the request was received, the resources would be pushed to the location in the quantity and quality as detailed by the formal request.

7. Decentralization Put into Action

The findings in the Federal Response to Hurricane Katrina: Lessons Learned was "spot on" when it stated, "While we have built a response system that ably handles the demands of a typical hurricane season, wildfires, and other limited natural and man-made disasters, the system clearly has a structural flaw for addressing catastrophic events."¹⁵³ One of the structural flaws is inherent in the current centralized organizational structure which is used for disaster response and incident management alike. The current approach to leadership and readiness for CBRN response highlights a structure that is top down

¹⁵¹ White House, *National Strategy for Homeland Security*, 77.

¹⁵² Department of Defense, "Forward Observer," About.com: <http://usmilitary.about.com/od/glossarytermsf/g/f2576.htm> (accessed: November 8, 2008).

¹⁵³ Federal Response to Hurricane Katrina: Lessons Learned, Chapter 5, 52.

driven. The emphasis and the training are at the highest level in the response structure only without regard to the field level; it is in fact linear. By examining the organizational structure below (Figure 2) as found in the NRF, the inferences are that decisions are made within the JFO unified coordination group and, therefore, in the FEMA system the CBRN specific decisions when made are also made there.

FEMA JFO Integration

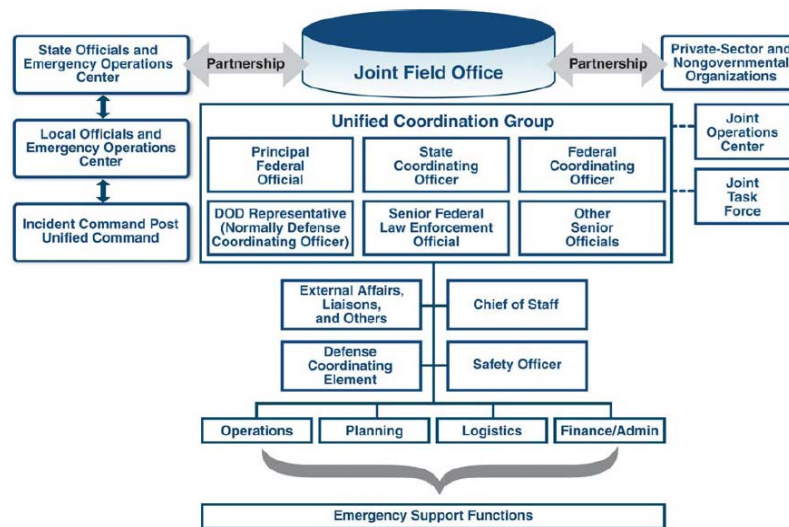


Figure 2. Organizational Structure (Centralized) ¹⁵⁴

The best use of the Incident Command System (ICS) is when single agencies respond to single emergencies.¹⁵⁵ ICS is designed to be an all-hazards approach to how responders tactically respond to events on the ground. It provides for a consistent methodology to handle response environments both large and small. The same holds true for the National Incident Management System (NIMS), which is the current national standard that expanded the use of the ICS beyond the fire service to all responding agencies.¹⁵⁶ It is interesting to note that the ICS has been expanded to other disciplines,

¹⁵⁴ DHS, *National Response Framework*, 63.

¹⁵⁵ Eric Holdeman, "Who's in Charge?" *Emergency Management* 2, no. 3 (2008): 31.

¹⁵⁶ *Ibid.*

beyond the intended audience is that of first responders. There are now ICS solutions for such areas as schools and hospitals. Even businesses have started using the ICS to handle crisis situations.¹⁵⁷ The emergency response community is grasping for straws to figure out a more effective way to conduct response operations. They have defacto settled on the ICS and partially, if not wholly due to federal mandate which, of course can be influenced by providing federal funding.

A more appropriate approach is consistent with looking at new ways to increase efficiencies. This can be achieved by rejected the linear model and concentrating on the spaces between the linear lines. Allow conversations and collaborations, discussions and decisions between all aspects of the organizational chart. This is the type of organizational structure that FCO will require when navigating a CBRN event (see Figure 3 below).

Note: The lines represent decisions being made throughout the structure without regard to who is higher or senior. Similar to the synapses of the human brain firing at will and at random but producing a functional human being that does not have to consciously think and contemplate every decision of life.

¹⁵⁷ Holdeman, “Who’s in Charge?” 31.

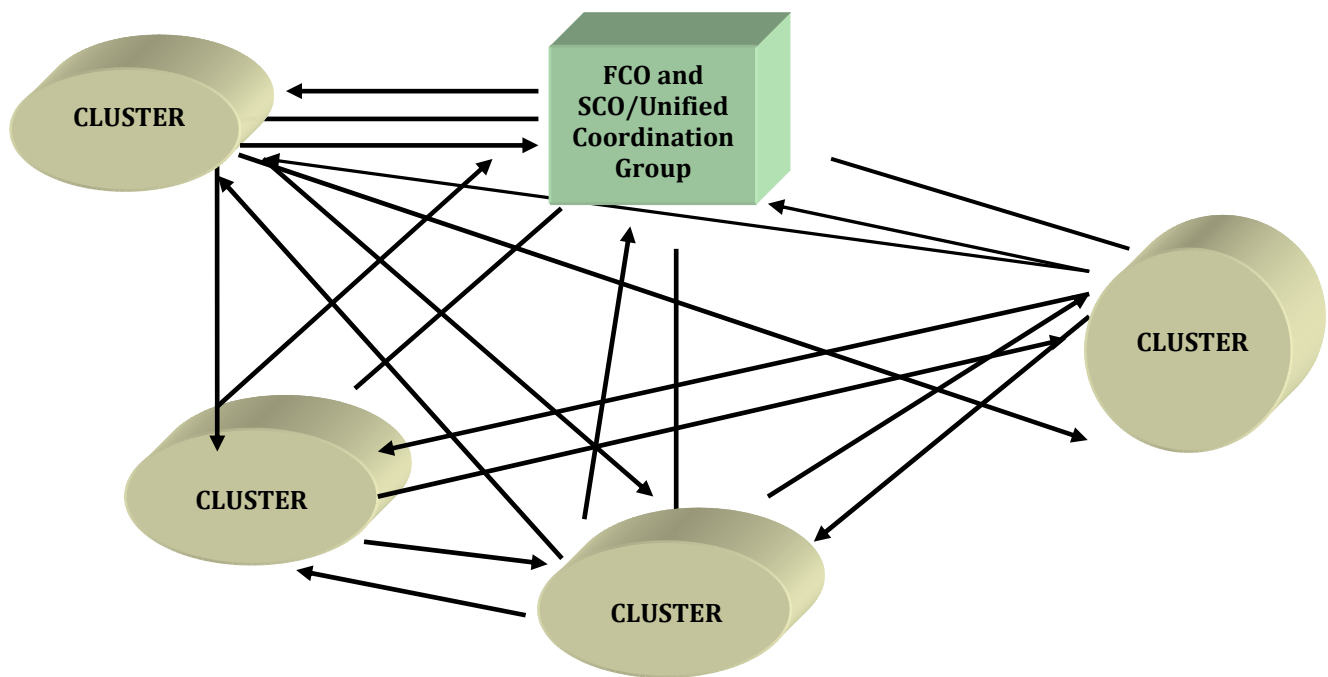


Figure 3. Organizational Structure (Decision Cluster- Decentralized)

In the example, the clusters are groupings of federal, state, local, tribal, and private sector officials. These officials individually or collectively are empowered to access resources. If a need arises, the requirement is quickly resourced by the closest level of responder nearest to the need. This activity of ordering resources is similar to the actions of an agency representative in the ICS. An agency representative (agency rep) is an individual assigned to an incident from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident.¹⁵⁸ Each cluster would mobilize the required support to achieve success—be it operations, planning, finance and administration.¹⁵⁹ What decentralization advocates is allowing the ability to move assets to a much lower level than what is currently established and to trust those individuals, groups, and collaborative clusters to make the proper decision. In such a system the FCOs or JFOs would not be the

¹⁵⁸ Federal Emergency Management Agency, "Review of ICS 100 and 200" (2006) http://www.metrokc.gov/prepare/docs/ODP%20Training/9-25-06_ICS100-200.pps (accessed on October 19, 2008).

¹⁵⁹ These functions listed represent the typical general staff under the definition of the Incident Command System (ICS)

major entity that commanded the resources and commodities such as ice, water, protective tarps, but the decision cluster would be that command and control element to order and send the resources to the exact location where they are needed most.

Leadership in the twenty-first century is no longer linear and, therefore, the approach to preparations and organization must also not be linear. This is achieved by an innovation in thinking and by understanding that an effective leader is one that knows how to maximize the efforts and talents of those assigned with him/her. This is even more important in a CBRN environment where the event is so complex that one person could not possibly have the capacity to understand all the implications.

What is advocated is a non-controlled, seemingly chaotic structure, but produces decision makers and quick reaction force projection at every level of the continuum. CBRN is that one obvious environment where it is unique enough to demand decentralization. As was evidenced by the survey results in Chapter IV, the FCOs simply do not have the requisite capacities to manage an entire event and therefore leveraging others through decentralization becomes paramount to success. In the decentralized organizational template above, the people at all levels are trusted with the understanding that they, at their level, understand better what is required than the staff at a JFO would. When people have trust, they have a heightened confidence in one another's intention and actions, and when they have commitment, they are willing to override personal self-interest in the interest of the company (agency or organization).¹⁶⁰ By its very design, decentralization allows the talents and abilities of each participating member to be utilized at the level in which they are engaged. The members of the decision cluster are allowed to concentrate on their area of concern/jurisdiction and the senior leaders, such as the FCOs, are afforded the opportunity to look at the entire event from a strategic perspective without being tied to the mechanics of the tactical movement of simply truckloads of commodities such as the ice, water, and protective tarps discussed previously. In short, by implementing a decentralized methodology, the FCOs can focus on the big picture issues instead of the little, minute details.

¹⁶⁰ Kim and Mauborgne, *Blue Ocean Strategy*, 182.

8. Sources of Expertise to Serve within Decision Clusters

The United State has a plethora of vocations and occupations where the skill sets and core competencies of planning and operations have been taught. What is required is simply a refinement of those individual competencies and apply them to resource allocations in a CBRN environment. The below occupations are examples of people who would require little training to be able to be effective cluster managers or members to interface with the FCO, Unfired Coordination Group, and the JFO to provide better just in time resources in CBRN environments:

- National Guard
- Civil Air Patrol
- Coast Guard Auxiliary
- Retired first responders (fire, police, medial)
- Retired military officers and enlisted

9. Implementation of the Cluster System

The federal government is increasing providing the resources for state and local communities to be better prepared for disasters. One such example is the Citizen Corps. The Citizen Corps was created to offer Americans the opportunity to volunteer to protect their communities through emergency response and preparation. More than 100 communities, ranging from major metropolitan areas to small suburban and rural communities, have formed Citizen Corps Councils to coordinate local volunteer activities to support first responders. More than 38,000 individuals from all 50 states have signed up online to participate in one or more of the federally supported Citizen Corps programs.¹⁶¹

Here, this thesis proposes the development of the CBRN Decision Cluster Corps in the same vein as the Citizen Corps Councils. The CBRN Decision Cluster would be trained by the federal government and would be exercised periodically in CBRN,

¹⁶¹ White House, *National Strategy for Homeland Security*, 104.

resource allocation, and general command relationships and authorities. The clusters would be mobilized by either state or local officials and would have a direct line of contact to the Joint Field Office. State and local officials would appoint a Decision Cluster Coordinator (DDC) who would be responsible for managing the program. In addition the DCC would keep a roster of trained cluster members and would ensure all clusters had a minimum number of trained, proficient members at all times. The basic dilemma or challenge in organizing for homeland security is to develop complementary systems that avoid duplication and ensures essential requirements are met.¹⁶² The CBRN Decision Cluster Corps does exactly that by aligning the responsibilities to the level of government that does each best in CBRN environments. The federal government has the resources and the state and local governments are better suited to know exactly what is needed where because they are closest to the situation. The FCO is the integral part of the equation because he or she will be the President of the United States' direct representative responsible for providing the funding mechanism to allow the resources to move from federal direction to state/local/cluster implementation. FCOs will have to be trained on the nuances of this new level of collaborative interface and exercise to ensure the validity of the protocols.

D. RECOMMENDATION 3

For FEMA to develop and establish an incident management team- chemical, biological, radiological and nuclear (IMAT-CBRN) to take the federal lead in the preparedness, response, recovery, and management of CBRN events.

1. The Rationale for Establishing a FEMA IMAT-CBRN

The House Select Committee on Hurricane Katrina found that DHS and FEMA lacked adequate trained and experienced staff for the response and the readiness of FEMA's national emergency response teams was inadequate and reduced the effectiveness of the federal response.¹⁶³ Therefore it stands to reason that an attempt should be made to develop teams and systems that will more effectively be able to

¹⁶² White House, *National Strategy for Homeland Security*, 39.

¹⁶³ David Rath, "FEMA Forecast," *Emergency Management* (Summer 2006):18.

manage the catastrophic events such as hurricane Katrina and a CBRN. The federal government has a long history of responding to hurricanes; yet even with such extensive experience, the collaborative response system failed during Katrina. The federal government and the collaborative response system has yet to be tested in a major CBRN environment, and to think the current teams and structures which failed at responding to a common¹⁶⁴ hurricane scenario would fare better during an uncommon CBRN event would be stretching common sense. A the course of action that should be examined and considered is the development of a dedicated FEMA team lead by an FCO to be responsible specifically for CBRN events.

2. Precedent in Establishing CBRN Centric Teams

This comprehensive approach has as its fulcrum the development of an Incident Management Assistance Team (IMAT) - CBRN that would concentrate an entire support structure to both steady-state and operational CBRN specific activities. The approach described herein is similar to the course of action pursued by the Department of Defense when faced with the similar reality that CBRN responses are dissimilar to both standard warfare and traditional defense support to civil authorities missions. In response to the need the DoD established a Joint Task Force Civil Support (JTF-CS).

3. The JTF-CS as a Guidepost

The Joint Task Force Civil Support, with headquarters in Virginia, provides command and control for Department of Defense forces deployed in support of the primary agency managing the consequences of a domestic chemical, biological, radiological, nuclear, and high-yield explosive situation. In the incident area, JTF-CS accomplishes its mission by acting upon approved requests for assistance and mission assignments that DoD receives.¹⁶⁵ This impetus to deploy the JTF-CS is the same

¹⁶⁴ Though hurricane Katrina was a larger event, it was still a common scenario that FEMA and the designated states train towards on a consistent basis and have done so for many years.

¹⁶⁵ Joint Task Force Civil Support, "Core Principles of JTF-CS," http://www.jtfcs.northcom.mil/About_JTFCS/Core_Principles/Core_Principles.html (accessed November 6, 2008).

impetus to activate FEMA's response teams- upon request from the appropriate state, local, or tribal officials. The primary mission authority allowing the Department of Defense and JTF-CS to engage in domestic consequence management operations is the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. § 5121 et seq). The Stafford Act authorizes the President to provide disaster and emergency assistance to state and local governments upon receipt of a request from a governor. Deployment of JTF-CS, at the direction of the commander of U.S. Northern Command and on the authority of the Secretary of Defense, would occur only after a governor request federal assistance from the President, and after the President issues a Presidential Disaster Declaration.¹⁶⁶ In contrast, FEMA, being lead by an FCO in the field has the primary authority to manage the federal response and recovery, yet the investment to ensure the proper personnel, infrastructure, or mission posture has yet to be made.

4. Key Driving Factors Supporting the Need for an IMAT-CBRN

As listed below, several key reasons drove this conclusion to the forefront to include:

- FCO leadership alone may not be able to ensure tactical readiness across response and recovery disciplines
- FCOs are the key leaders, but leadership is a filter and others within the command and general staff would also require definitive CBRN focus that at present is not being provided
- The challenges of a CBRN environment is so different that a more concentrated knowledge and experienced federal team to lead the innovations may be required
- Turnover rate and constant changing of FCOs will make it difficult to maintain competencies

¹⁶⁶ Joint Task Force Civil Support, "Core Principles of JTF-CS," http://www.jtfcs.northcom.mil/About_JTFCS/Core_Principles/Core_Principles.html (accessed November 6, 2008).

- State and local knowledge gaps in CBRN will be large and having only one FEMA person, the FCO, trained (as per the FCO, CBRN TQP) is not good enough to ensure adequate federal support, but rather having an entire team which can fold upon the state and local apparatus and provide support is more appropriate.
- A seasonal hurricane or other large event would remove the small cadre of FCOs from operational consideration. Having a dedicated 24/7 IMAT-CBRN ready to deploy for specific events regardless of the operational tempo caused by other natural disasters or manmade events is value added. If not involved in a CBRN event, then this dedicated team would not be engaged but rather remain in a training and exercise posture to prevent the dilution of its focused capabilities.

5. Leveraging of Current IMAT Development Processes

Currently FEMA is in the process of establishing both national and regional IMAT teams. The primary mission of a FEMA IMAT is to rapidly deploy to an incident or incident-threatened venue, provide leadership in the identification and provision of federal assistance, and coordinate and integrate inter-jurisdictional response in support of the affected state(s) or U.S. Territory(s). The IMATs will support efforts to meet the emergent needs of state and local jurisdictions; possess the capability to provide initial situational awareness for federal decision-makers; and support the initial establishment of a unified command.¹⁶⁷

As the IMAT concept at FEMA remains in its infancy, it would be prudent at the same time as the development of notional IMATs are being discussed and implemented to also develop an IMAT-CBRN to concentrate on the unique CBRN environment. The JTF-CS has subject matter experts on staff in a variety of fields to enable the organization to perform missions in CBRN environments to include experts in medicine and chemical, biological, radiation, nuclear and explosive weapons. The entire staff recognizes the special considerations of operating in CBRNE terrorists incidents.¹⁶⁸ The goal of

¹⁶⁷ Federal Emergency Management Agency, "FEMA Disaster Response Assets."

¹⁶⁸ John Conger, "Training and Planning Prepare the Joint Task Force-Civil Support for Emergencies," *Journal of Homeland Security* (April 2004).

establishing the IMAT-CBRN would be similar to that of the JTF-CS, only it would be geared toward the federal integration with state and local resources in keeping with the mission of FEMA.

The current IMAT force structure calls for 26 members to be on the team. With the IMAT-CBRN, these 26 members would all be trained and focused on CBRN response doctrine, again similar to the JTF-CS, and would be the lead federal support entity to state and local officials in such environments. The Department of Defense made the commitment to CBRN competencies by establishing the JTF-CS; FEMA can do the same with the IMAT-CBRN. Precedence has been set. It is ironic that the agency with the largest consequence management coordinating role in a CBRN event, FEMA, has little capability while the agency with always a supportive role; DoD has great capacity with the JTF-CS structure.

E. CONCLUSION

None of the three recommendations detailed herein are difficult to implement. They are all rather straightforward and logical. As a group, they intersect the gambit of response and recovery systems that the FCO is habitually exposed—both internal and external.

If a CBRN attack were to occur today, it is doubtful that the highly professional and motivated FCO cadre would have the wherewithal to provide the level of leadership and management that is expected.

The experts are sounding the alarm. Regarding the nuclear threat, former Senator and current Co-Chair and CEO of the Nuclear Threat Initiative Sam Nunn testified that “The threat of a nuclear attack is a real and present danger, and yet we are doing an insufficient job in defending against this new threat.”¹⁶⁹ Dr. Matthew Bunn of Harvard University’s Kennedy School of Government agreed, saying that nuclear terrorism is a

¹⁶⁹ Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, Press Release (September 11, 2008) http://www.preventwmd.gov/9_11_2008/ (accessed November 11, 2008).

¹⁶⁹ Associated Press, “Report: U.S. Remains ‘Dangerously Vulnerable’ to Attack,” September 9, 2008.

very real possibility.¹⁷⁰ In the official Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism report it was stated that “A nuclear, chemical or biological weapon in the hands of terrorist remains the single greatest threat to our nation. While progress has been made in securing these weapons and materials, we are still dangerously vulnerable.”¹⁷¹

The threat is clear and present; the FCOs will be at the tip of the response and recovery spear. The question remains, will they be ready? By adopting the recommendations set forth herein, the answer will be a resounding, yes!

¹⁷⁰ Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism.

¹⁷¹ Associated Press, “Reports: U.S. Remains ‘Dangerously Vulnerable.’”

VII. RECOMMENDATIONS FOR ADDITIONAL RESEARCH

Although this research shed light on a very important homeland security issue, FCO leadership and capabilities in CBRN environments and how the FCOs can be better prepared to handle such challenges, there remain additional aspects of the national response and recovery from CBRN events that require further illumination. First and foremost, this research focused exclusively on the Federal Coordinating Officers. By design, the FCOs were highlighted as the lead federal manager during a disaster declared from a CBRN event. Still, for a clearer picture of the status of CBRN response capabilities within the United States, additional research focusing on other response partners such as the State Coordinating Officers¹⁷² would be appropriate. Do the SCOs require similar training in CBRN competencies as the FCOs? What additional training or organizational changes benefit the SCOs?

Another key area that could use additional scrutiny is bureaucratic decentralization as a novel concept. A further examination of leadership and efficiencies in organizational performance at the federal, state, local, and tribal level with respect to chaotic events such as CBRN, would benefit the discourse of how decentralization can lead to increased efficiencies in CBRN events. The question remains do these same levels of government possess both the will and the capabilities to make such a paradigm shift? Will they step up to the plate and become skillful contributors to the decision cluster concept presented herein? Are they content with the status quo? Is decentralization truly a viable approach not only on paper but in the field? In other words, how best can this concept be operationalized?

The FCO self-examination process is subject to additional clarification. In this research the FCOs were asked to evaluate themselves subjectively on certain CBRN competencies. A deeper more objective look at FCO competencies could shed more light on the issue. Additional research into the way FCOs perform in CBRN related exercises

¹⁷² The State Coordinating Officer (SCO) plays a critical role in managing the state response and recovery operations following a Stafford Act declaration. The governor of the affected state appoints the SCO, and lines of authority flow from the governor to the SCO. (DHS, *National Response Framework*, 52.)

and the competency gaps would go a long way to determining the true nature of FCO leadership in CBRN environments absent a real event. Do what FCOs say really mirror their performance? Is there a more concrete method to judge expected CBRN competency?

Valuable research could continue looking at the uniqueness of responding to CBRN events verses everyday disaster situations. From this comparison and contrasting, interpolating and extrapolating an even greater understanding of the need to pursue CBRN as a distinct response and recovery discipline might subsequently emerge. Chapter VI of this thesis identified certain key CBRN leadership competencies, but are there others? Can these other competencies be identified, codified, and trained to?

This research touched on the issue of bureaucratic inertia—the resistance to change and to give up both power and control. The FCOs exist in a world inhabited by bureaucrats. Is there a better way to direct such change? Can organizations such as FEMA truly change? And if so, what are the best ways to influence such change? If not, how can the resistance to change be offset to ensure operational readiness in CBRN events?

Finally, the concept of the IMAT-CBRN requires further study. Is it beneficial to devote such staff, equipment, and other resources to a capability that may not be utilized in an actual event? If there is not a CBRN attack, then in what activities will the team be engaged? CBRN has been identified as low probability but high consequence (LPHC) events. Unlike traditional hazards, LPHC events are rare occurrences.¹⁷³ In this era of cost constraints, is an IMAT-CBRN a valuable investment of scarce resources? Can the current JFO structure be modified to perform the same work as the IMAT-CBRN without the added expense?

This research is a first step in truly isolating tangible ways to ensure the Federal Coordinating Officers are prepared to respond to CBRN events. By looking at the FCO function as a system it allowed for making specific recommendations in each distinct area

¹⁷³ Adam Crowe, “National Strike Teams: An Alternative Approach to Low Probability, High Consequence Events,” *Homeland Security Affairs* 9, no.2 (2008).

of that functional system: the internal, the organizational, and the support. As FEMA adopts the recommendations herein and continues to research more efficient ways to be engaged in emergency management, the entire national CBRN response and recovery posture is enhanced. Consequently, if the U.S. (as a nation) shows potential terrorists that it are ready—as a community and as a nation—then are the terrorists less likely to believe that their attack can achieve all of its destructive goals?¹⁷⁴ Other research in this area is both warranted and welcomed.

¹⁷⁴ Commission on the Prevention of WMD Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of WMD Proliferation and Terrorism* (New York: Vintage Books, 2008), 108.

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VIII. CONCLUSION

The Federal Response to Hurricane Katrina Lessons Learned report contained a very critical finding. The report states, “While we have built a response system that ably handles the demands of a typical hurricane season, wildfires, and other limited natural and man-made disasters, the system clearly have structural flaws for addressing catastrophic events.”¹⁷⁵ The Federal Coordinating Officer as the person appointed by the President of the United States is the key federal part of the noted system, and the consequences of a medium to large scale CBRN attack on American soil would be defined as a catastrophic event. The report goes on to add:

Under the current framework (The National Response Framework), the federal government merely coordinates resources to meet the needs of local and state governments based upon their request for (that) assistance... yet this framework does not address the conditions of a catastrophic event (CBRN) with large scale competing needs, insufficient resources, and the absence of functioning local governments.¹⁷⁶

Basically, this report is an indictment and a condemnation of the current system now in place to deal with the large scale, mega events such as a CBRN incident.

This thesis provides a path forward and a departure from the conventional group think. It first addressed the Federal Coordinating Officers as a key function within the federal response tool chest. It examined the current status of FCO CBRN competency readiness and made concrete suggestions as to how to improve the readiness and remove some key capability gaps.

The thesis also looked at the current response organization. A case was made that the current linear approach to response and recovery for large scale CBRN events is inadequate. The research advocated for a more decentralized response and recovery system and the institutionalization of decision clusters where critical, time sensitive

¹⁷⁵ White House, *Federal Response to Hurricane Katrina: Lessons Learned* (Washington, D.C.: White House, 2006), 52.

¹⁷⁶ *Ibid.*, 52.

decisions would be made jointly by the people nearest to the situation in question. In hurricane Katrina, federal officials struggled to perform responsibilities generally conducted by state and local authorities.¹⁷⁷ By the institution of the decision cluster concept all responsibilities become shared, and the affixing of blame for failure becomes joint. Each level of government, federal, state, local, tribal, and private sector, all work together seamlessly to ensure resources are ordered and allocated for the betterment of the victims. This type of organizational refinement at the grassroots level, supported by the FCO and SCO at the JFO, is the type of nexus partnership that the challenges of a CBRN response will demand.

Incumbent in the Post-Katrina Emergency Management Reform Act of 2006 is an important amendment to the Stafford Act. The amendment states that the Robert C. Stafford Disaster Relief and Emergency Act (Stafford Act) is amended to authorize the President in a major disaster to provide accelerated federal support in the absence of a specific request and expanded assistance to state and local governments in recovery.¹⁷⁸ The impetus for this amendment was predicated on the fact that the resources required at the point of service (POS), at the local level, were not arriving in a timely manner. This amendment is designed to remove some of the bureaucratic red tape that sometimes slows down resource allocations. The decision cluster described herein is designed to do exactly that- remove the red tape and get the needed resources to the POS on time and on target.

The research also looked at the development of an FCO lead CBRN-IMAT. The unique nature of the CBRN threat, the environment, and the level of preparedness in other organizations such as the Department of Defense with its JTF-CS, lead to the conclusion that FEMA, given its critical role as the lead in managing the federal response to the consequences of a CBRN event, needs to be on par with other agencies and have a dedicated, professional, full-time team to concentrate on the specifics and nuances of CBRN response and recovery.

¹⁷⁷ White House, *Federal Response to Hurricane Katrina*, 52.

¹⁷⁸ Post Katrina Emergency Management Reform Act (PKEMRA) of 2006, Title II, Stafford Act Amendment, Section 201 (2).

In conclusion, the failure of local, state, and federal government to respond more effectively to (hurricane) Katrina—an event which had been predicted in theory for many years, and forecasted with startling accuracy for five days—demonstrates that whatever improvements have been made to the capacity to respond, the U.S. is still not fully prepared.¹⁷⁹ In theory, many experts and statesmen alike predict that the United States will be attacked by a terrorist using CBRN weapons, and when it happens the consequences will be catastrophic. When this happens, the Federal Coordinating Officer will be once again in the spotlight. The general assumption from the public is the FCO will be prepared, well-trained, have the right organizational structure, and have the proper support staff to be successful. The current research contained herein does not reach that same conclusion. More is needed to prepare the Federal Coordinating Officers to manage effectively in CBRN environments.

The Commission on the Prevention of WMD Proliferation and Terrorism recently stated that it is more likely than not that a weapon of mass destruction will be used in a terrorist attack somewhere in the world by the end of 2013.¹⁸⁰ Yet, most Americans have little concern that they or their families will be a victim of such terrorism.¹⁸¹ The Federal Coordinating Officers who will be called on to respond to an attack do not have the luxury to not be concerned. They must be concerned, ready, and diligent.

Tangible, proactive steps are presented as recommendations in this thesis. It is hoped that the tenants of each recommendation be dissected and discussed in a serious fashion. The FCOs are a motivated, willing, and ready cadre of professionals; they just need the right tools to do the job right.

¹⁷⁹ Select Bipartisan Committee, *Failure of Initiative Executive Summary*, 1.

¹⁸⁰ Commission on the Prevention of WMD Proliferation and Terrorism, *World at Risk*, xv.

¹⁸¹ Christopher Bellavita, “Changing Homeland Security: The Issue-Attention Cycle,” *Homeland Security Affairs* 1, no. 1 (2005), 2.

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